1928

SANYO

Service Manual

Stereo Sound System DCX801 (W.GERMANY) (ITALY)

PRODUCT CODE No.
129 343 03 (W.GERMANY)
129 343 04 (ITALY.)

Specifications

Tuner section	
Frequency range	FM : 87.5 - 108 MHz MW : 522 - 1,611 kHz(W.GERMANY) 526.5 - 1,606.5 kHz(ITALY) LW : 144 - 290 kHz(W.GERMANY) 148.5 - 283.5 kHz(ITALY)
Cassette Deck section	
Recording system	AC bias, 4-track stereo
Erasing system	Magnet erase, 2-track
Rewind and fast forward time	Approx,120 sec. (C 60)
CD player section	
Channels	2 channels
Frequency response ...	20 - 20,000 kHz
Channel separation ...	90 dB (1 kHz)
Distortion	0.12 % (1 kHz)
Wow and flutter	Undetectable
GeneralS/N ratio ...	85 dB
Output power	40 W × 2 (at 8 ohma,10% distortion)

Inputs	VIDEO : 47k ohms (280 mV)
outputs	Speakers : 8 ohms Headphones : 8 ohms
Power source	AC : 220V, 50Hz
Dimensions (approx.)	360 × 328 × 357 mm (W × D × H)
Weight(approx.)	4.2 kg including batteries
RB-X801 Remote control	
Power source	DC : 3 V "R6/HP 7" battery, × 2
Dimensions (approx.)	60 × 18 × 160 mm (W × D × H)wer source

REFERENCE No. WM-580494

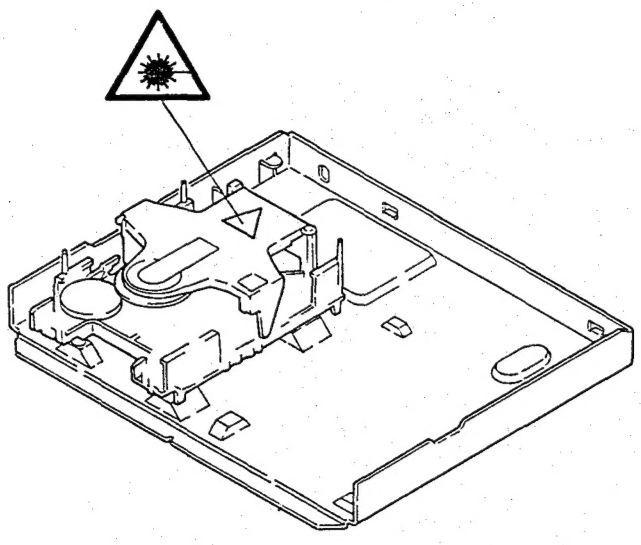
pecification subject to change without notice.

1928

LASER BEAM SAFETY PRECAUTIONS

Do not look directly at the laser beam coming from the pick-up or allow it to strike against your fingers, skin, etc.
Do not apply power if there is a broken part in the laser output section of the pick-up.

Structural Safety Interlock
This model has a disc chuck lever and top lid. This disc chuck lever and top lid prevent to expose the laser beam for users.



1. HANDLING THE PICK-UP

1) Shipping and storage cautions

a. The pick-up must be stored in a conductive bag until immediately prior to its use.
b. Do not drop it or subject it to impacts.

2) Repair cautions

a. When handling the pick-up, be careful not to give it undue force or shock by your hands. Otherwise the pick-up may malfunction or the PCB may be cracked.
b. The pick-up which has been minutely adjusted before shipment as one part. Never touch and move the adjusting points and setscrews of the pick-up unless otherwise described in the item of adjustment to avoid damage.
c. A strong magnet is used in the pick-up.
Do not bring a magnet or other magnetized object near to it.
d. **Cleaning the lens**
* If dust gets on the lens, clean it away by using an air brush such as used for a camera lens.
* The lens is held in place by a spring.
If the center of the lens is dirty, carefully clean it using cotton swab moistened with **isopropylalcohol.** Since special coating is made on the surface of the lens which is made of plastics, do not use other kind of alcohol and cleaning fluid to prevent damage to the lens. Also, be carefull not to bend the lens spring when cleaning.

2. BEFORE REPAIRING THE CD PLAYER

1) Preparations

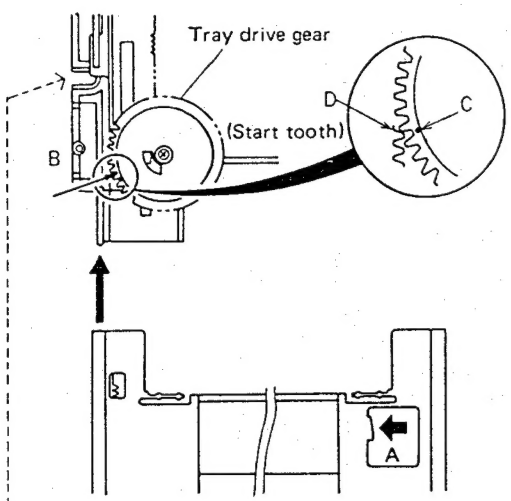
a. Many ICs, LSI and the pick-up (laser diode) are used in the compact disc player. These components are sensitive to static electricity, and might be damaged by static electricity or high voltage, so particular care should be taken regarding this point.
b. Many precision components and the lens are used in the pick-up.
Never attempt to make repairs, or to store parts, where the temperature or humidity is high, where magnetism is strong, or where there is much dust.

2) Notes regarding repairs

a. Be sure to first disconnect the power plug before attempting to replace any component.
b. All tools, instruments, etc., used for measuring must be grounded.
Grounding can be accomplished by using a conductive metal sheet on the work bench.
c. To prevent AV leakage of the soldering iron, ground its metal part.
d. Repair personnel must be grounded.

DISASSEMBLY (CD MECHANISM)

1. Removal of DISC TRAY



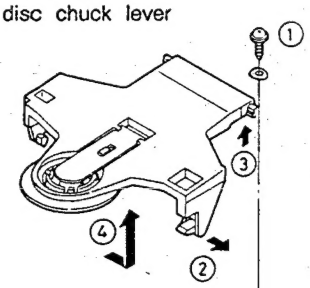
- Drive the mechanism to open end. Open/Close SW: ON
- Pull the TRAY off the mechanism. (Push the A rib of the TRAY to the direction of arrow and free from chassis rib.)
- Turn the PIC drive gear (under chucking lever) slowly manual forward clockwise and move the slide to the front end.
- Match the guide groove of TRAY to the chassis guide and insert to the direction of arrow.
- Insert the TRAY to the mechanism after to match the C (tooth bottom) to the D (starting tooth) of TRAY rack. Then complete the close motion by Open/Close SW: ON.

(If the left slide obstructs the special screw, turn the PIC drive gear a little.)

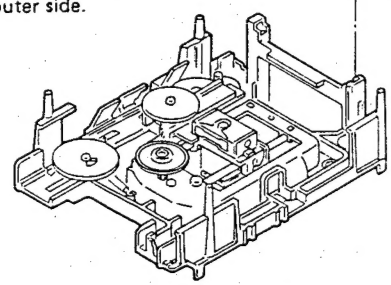
Note:
Never turn the TRAY drive gear by hand directly in the all mechanism adjustment so that you will not wound the teeth of the TRAY drive gear.

2. Removal of the CD Mechanism

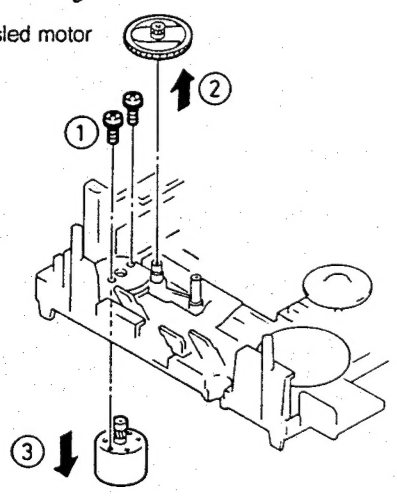
a,Removal of the disc chuck lever



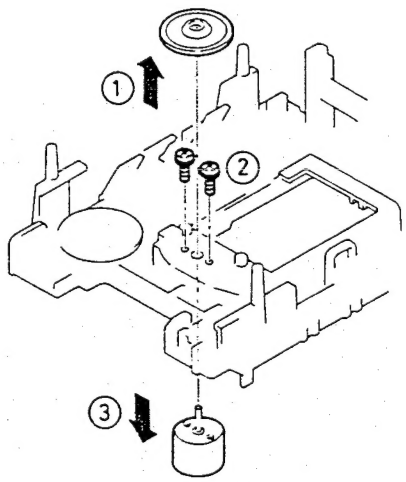
* Pull the flange ② of the chuck lever to the outer side.



b. Removal of the sled motor



c. Removal of the spindle motor

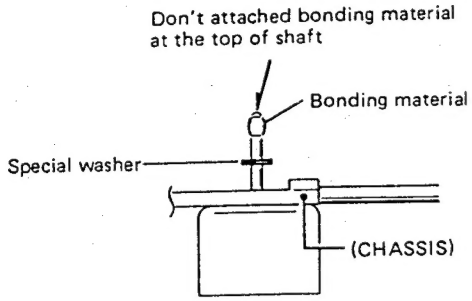


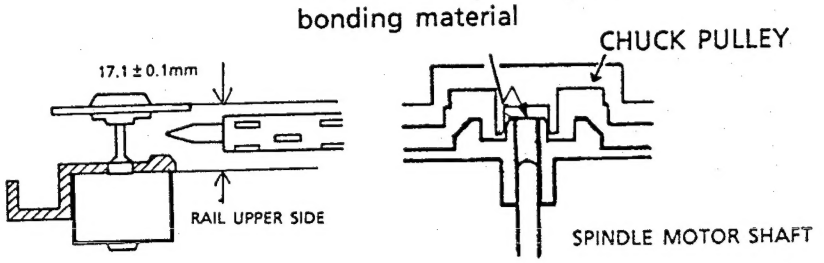
- First, prepare the new turntable and new special washer for replacement.
  The removed turntable will be deformed by the heat of the soldering iron, and cannot be reused.
- Prepare dial-type calipers.

(1) The attached bonding material can be dissolved by using a 60W soldering iron to heat the shaft at the lower part of the turntable for about one minute.
(2) The turntable can then be removed from the shaft by very carefully applying force upward at the center of the lower surface of the turntable.
(3) Remove the two screw and remove the spindle motor.
(4) Attach the special washer to the spindle motor.
(5) Apply a small amount of a mixture (50: 50) of the "Three Bond 2001" and "2105F" bonding material to the motor's shaft.

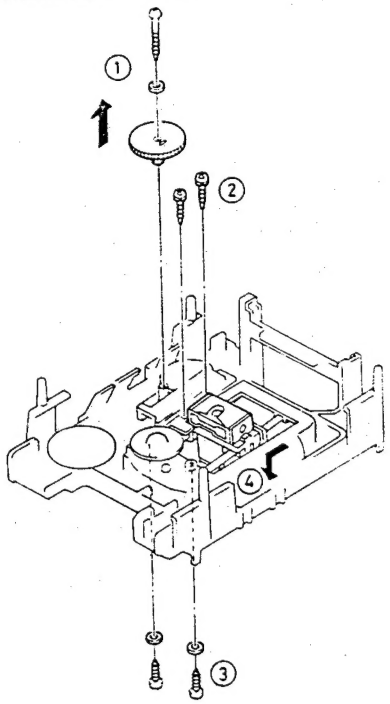
(6) Install the turntable as shown in the figure.

(7) Secure the turntable by pressing gently.
Be sure to wipe away (by using a piece of cloth, or similar material) any bonding material coming out of the hole.





d. Removal of Pickup



e. Replacement and lubrication of the pick-up

(1) Before replacement of the pick-up, be sure to carefully read the section regarding the pick-up when the unit is moved or transported.

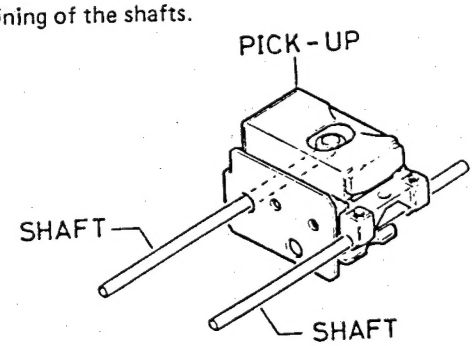
(2) Remove the two pick-up rail with care fixing the 2 latch with any way driver from bottom of chassis.

(3) When replacing the pick-up, carefully wipe away the grease from the shafts on which the pick-up is mounted.

(4) Replace the pick-up.

(5) Move the pick-up to the position at the left side, and then apply a coating of floil (G-474B) to the two shafts.

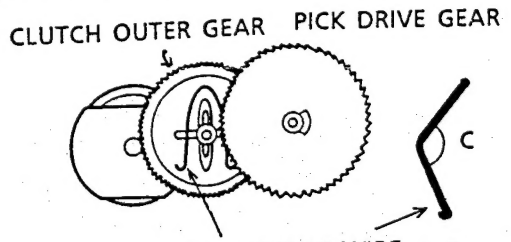
(6) Move the pick-up to the right side and apply floil to the remaining of the shafts.

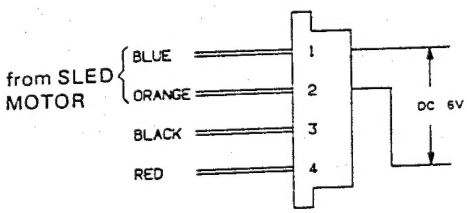


f. Inspection of slip current.

Stop the TRAY on opening by force, check the slip mechanism (next gear assy of motor)

- Confirm that the inner gear stops and outer gear, and motor's gear rotate.
- Confirm that the scale of corrent meter is 225mV ~ 275mV. (*)
- Check this slip inspection on DC 6.0V.





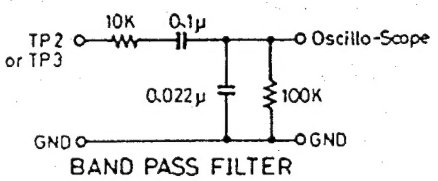
* In the case of that DC current scale
don't display 225mV~275mV,adjust to below items.
#read current value:A . amount of the grease(Silicon G333):B
bender angle of the spring wire D:C
A>275mV →increase the angle C or
decrease B.
A<225mV →decrease the angle C or
increase B.

CD ADJUSTMENT

Electrical Adjustment

So far we have presented explanations regarding compact disc player handling, notes prior to repair, handling the pick-up and disassembly of the unit. Be sure to carefully read these instructions before making any adjustments.

Note : Test disc are subject to change without notice.



BAND PASS FILTER

Test discs required for adjustments and checks

No.	Destination	Description (manufacturer)
1	414 245-2	for Demonstration (Polygram)

A. Preparations for Adjustments

(a) Measuring instruments, tools and filter

(1) Test disc. : YEDS 17, -10dB, 1KHz (Sony)

(2) Oscilloscope : SS5711 (10MHz or dual phenomenon)
or Memoryscope : DSS6521 (Storagescope)

(3) Digital voltmeter (Input impedance 1M ohm or more)

(4) Oscillator (400Hz, 300mV RMS)

(5) Frequency Counter (5MHz ; or more)

(6) Screw drivers (non-metalic) for adjustments

(7) Filter

(8) DC Power supply : 15V, 1A Class

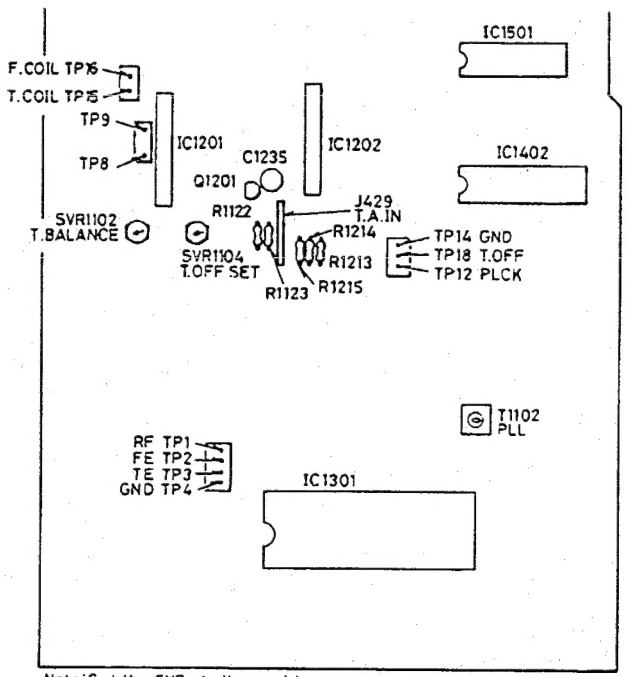
Notes : a. The adjustments can be using the equipment produced by other manufactures provided that the performance of that equipment corresponds to that of the above listed models.

b. Use a 10 : 1 probe for observing signals on the oscilloscope and storage scope.

c. Test disc is subject change without notice.

1. Initial set up

Set the initial position of adjustment controls as shown in figure below.



Note:Set the SVRs to the position as shown prior to the adjustment.

2. Free-run Frequency adjustment(PLL-VCO)

1. Connect the frequency counter to TP12(H), TP14(GND).
2. Turn on the power of the unit.
3. Adjust T1102 so that the frequency counter shows 4.30 ± 0.01MHz.

- if the adjustment is imperfect, get the long seek time, not read TOC, not sound. in the worst case become high speed turning, reveres turning and it may wound the disc.

3. Tracking Offset Adjustment (adjustment location:SVR1104)

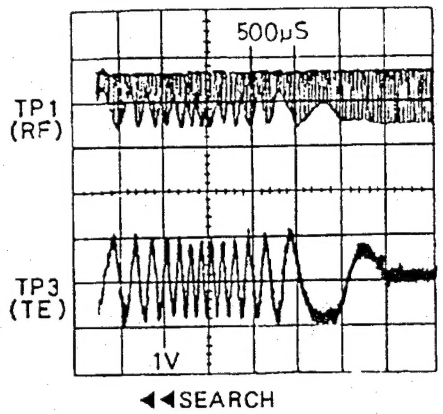
1. Connect the oscilloscope to TP15 (H) , TP4 (GND), and shot TP18(T Offset), TP14(GND).
2. Turn on the power of the unit.
3. Adjust SVR1104 so that the DC voltage at TP15 is 60mV ± 20mV.

- If the adjustment is imperfect, become inferior playability can not playback the disc.

4. Tracking Balance Adjustment (SVR1102)

1. Connect the oscilloscope to TP3 (TE) and TP4 (GND.).
2. Turn on the power of the unit. Insert test disc.
3. Press the play button.
4. Continuously press the foward search ▸▸ or ▸▸ button to do it
5. Adjust SVR1102 so that the TE (Tracking Error) signal waveform of TP3 on the oscilloscope is vertically symmetrical relative to 0V. (See figure below)

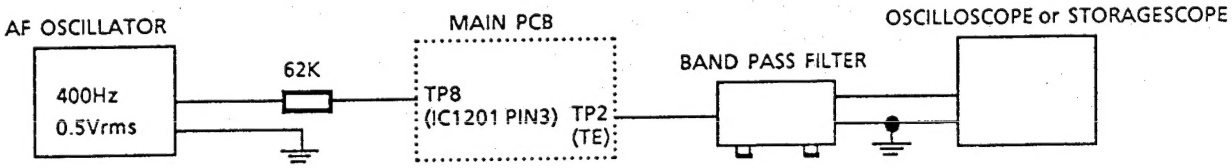
*If the adjustment is imperfect, become run away the spindle motor(pick-up sending motor), inferior playability.



5. FOCUS Gain CONFIRMATION

1. Connect the storage scope to TP2 (F.E) by the Band pass filter. 1 (See befor page)
2. Turn on the power of the unit.
3. play the test disc.
4. Set the output of AF oscillator to 400Hz, 0.5V rms and connect to TP8 (IC1201 pin 3) by resistor 62K ohm.
5. Confirm so that the voltage of F.E signal waveform on the storage scope is 1V p-p, ±3db by through BPF1.

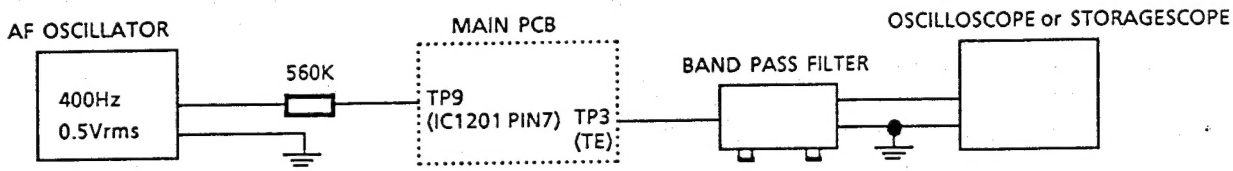
*If this CONFIRMATION is imperfect, become weak the mechanical shock, inferior playability, and can not playback the Disc.



6. Tracking Gain CONFIRMATION

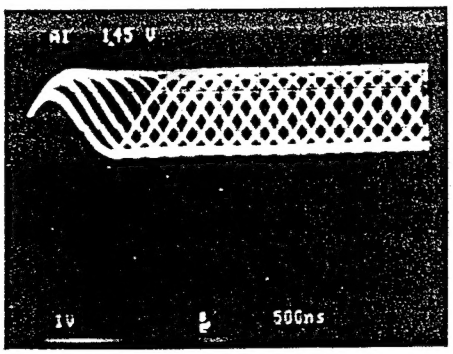
1. Connect the storage scope to TP3 (T.E) by the Band pass filter, 1 (See BPF Figure).
2. Turn on the power of the unit.
3. playback the test disc.
4. Set the output of AF oscillator to 400Hz, 0.5V rms and connect to TP9 (IC1201 pin 7) by resistor 560K ohm.
5. Confirm so that the voltage of T.E signal waveform on the storagescope is 1V p-p, ±3db by through BPF1.

*If this CONFIRMATION is imperfect, become weak the mechanical shock, inferior playability, and can not playback the Disc.

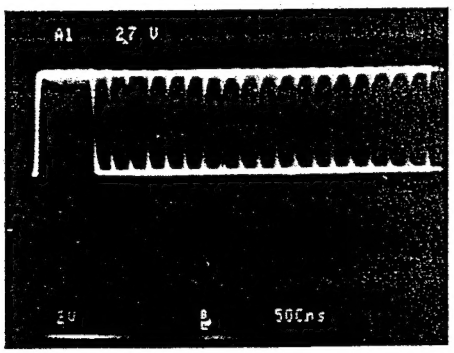


TEST POINT WAVE FORM

① TP 1
RF SIGNAL

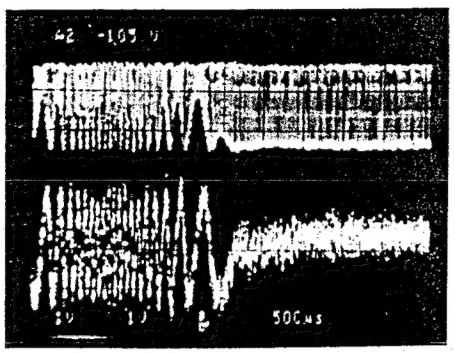


② IC401-6
EFM SIGNAL

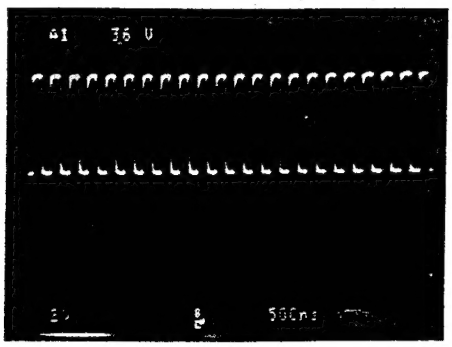


SEARCH TIME
⑤ TP 1
RF SIGNAL

TP 3
TRACKING
ERROR SIGNAL

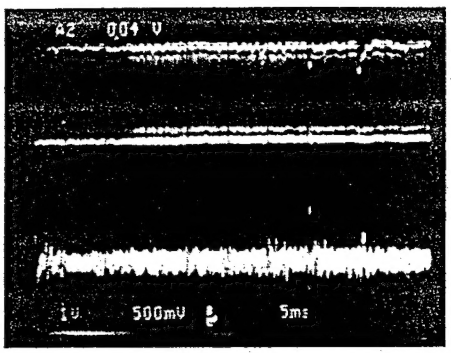


⑥ TP12
PLCK



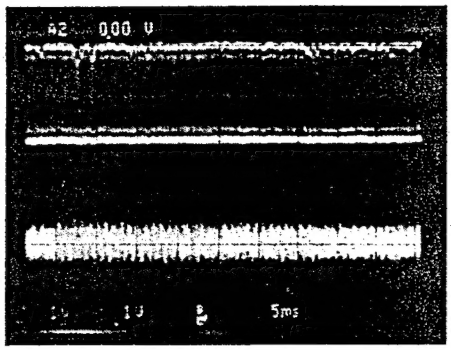
③ TP 1
RF SIGNAL

TP 2
FOCUS ERROR
SIGNAL



④ TP 1
RF SIGNAL

TP 3
TRACKING
ERROR SIGNAL

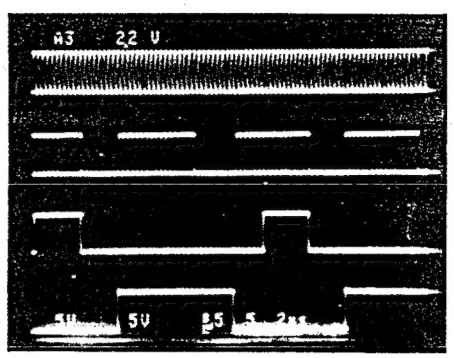


⑦ IC501 PIN 9
BLCK

PIN 8
DATA

PIN 7
WCLK 1

PIN 6
LRCK



TUNER ADJUSTMENT

- Use a plastic screwdriver for adjustment.
- Adjust the intermediate frequency of AM and FM to the frequency of ceramic filter.

RF Level:75 ohn ,Open SG voltage dBμV

(1) FM BAND

Antenna : 75 ohm Direct Modulation : 1kHz Dev. : ± 22.5kHz (mono/stereo), ± 6.75kHz(pilot)

STEP	ITEMS		FREQUENCY INDICATED POSITION	INPUT CONDITIONS		OUTPUT CONDITIONS		ADJUST-ING PARTS	STANDARDS
				MEASURING INSTRUCTIONS	CONNECT-IONS	MEASURING INSTRUCTIONS	CONNECT-IONS		
1	IF	V-Curve	98.0 MHz	FM Sweep Generator (10.7MHz Non Modulation Small Input)	TP103(H) TP102(E)	FM Sweep Generator	V: TP203(H) S: TP204(H) TP205(E)	T201	Max.
		S-Curve						T202	Symmetrical Wave Max.
2	Tuning Cover	Low	87.5 MHz	-----	----	Digital Voltmeter	TP401(H) TP102(E)	L104	1.25 ± 0.05V
		High	108.0 MHz					---	Confirm voltage below 8.5V
3	Tracking	Low	90.0 MHz	FM-SG(9dB)	FM ANT TERMINAL	VTVM Oscilloscope	Tuner Out (L/R,E)	L101 L102	Max.
		High	106.0 MHz					CT101	
4	IF S-Curve (0V)		98.0 MHz	FM-SG(66dB)	FM ANT TERMINA	VTVM Oscilloscope	TP204(H) TP205(E)	T202	0 ± 0.05V
5	SD		98.0 MHz	(26dB)	FM ANT TERMINA	Frequency Counter	TP207(H) TP205(E)	SVR201	SD Output low (Autostop sensitivity)
6	* VCO (19 kHz)		98.0 MHz	FM-SG(66dB) (Non Modulation)	FM ANT TERMINA	Digital Voltmeter	TP301(H) TP302(E)	SVR302	19 ± 0.05kHz

*: Use IHF filter adjusted from 200~15000 Hz BPF. Set the Mode switch to STEREO position. When connect counter should be inserted 220k ohm resist in series.

Note: Be careful so that digital voltmeter earth (including case) may not be in con-tact with other measuring equipments earth. (including case)

(2) MW BAND

Antenna : IRE Loop, Standerd output : 100dB , Modulation : 1kHz 30%

STEP	ITEMS		FREQUENCY INDICATED POSITION	INPUT CONDITIONS		OUTPUT CONDITIONS		ADJUST-ING PARTS	STANDARDS
				MEASURING INSTRUCTIONS	CONNECT-IONS	MEASURING INSTRUCTIONS	CONNECT-IONS		
1	IF(999 kHz)		459 kHz	AM Sweep Generator (459kHz Non Modulation)	TP151(H) TP152(E)	AM Sweep Generator	TP206(H) TP205(E)	X205	Don't adjustment. Preadjustmented.
2	Tuning Cover	Low	522 kHz	-----	----	Digital Voltmeter	TP401(H) TP102(E)	L153	1.4 ± 0.03V
		High	1611 kHz					CT153	8.0 ± 0.05V
3	Tracking	Low	603 kHz	AM-SG(78dB)	IRE Loop Ant.	VTVM Oscilloscope	Tuner Out (L/R,E)	L151	Max.
		High	1404 kHz					CT151	
4	SD		999 kHz	AM-SG(85dB)	IRE Loop Ant.	Digital Voltmeter	TP207(H) TP205(E)	SVR202	SD Output low (Autostop sensitivity)

TUNER ADJUSTMENT

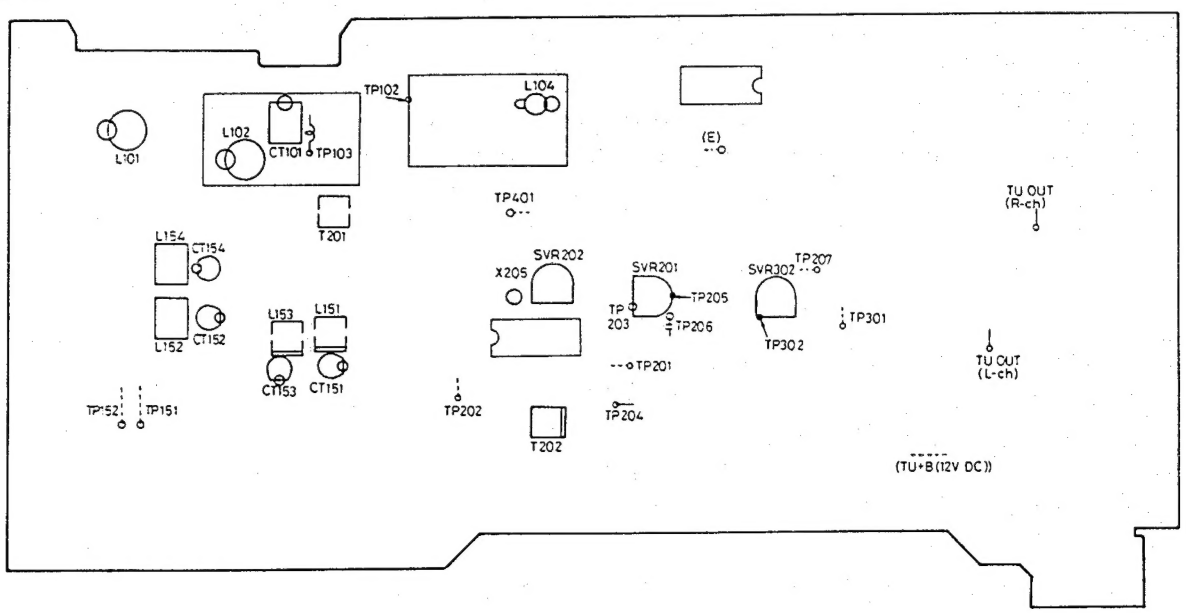
(3) LW BAND

Antenna : IRE Loop, Standerd modulation : 400Hz 30%

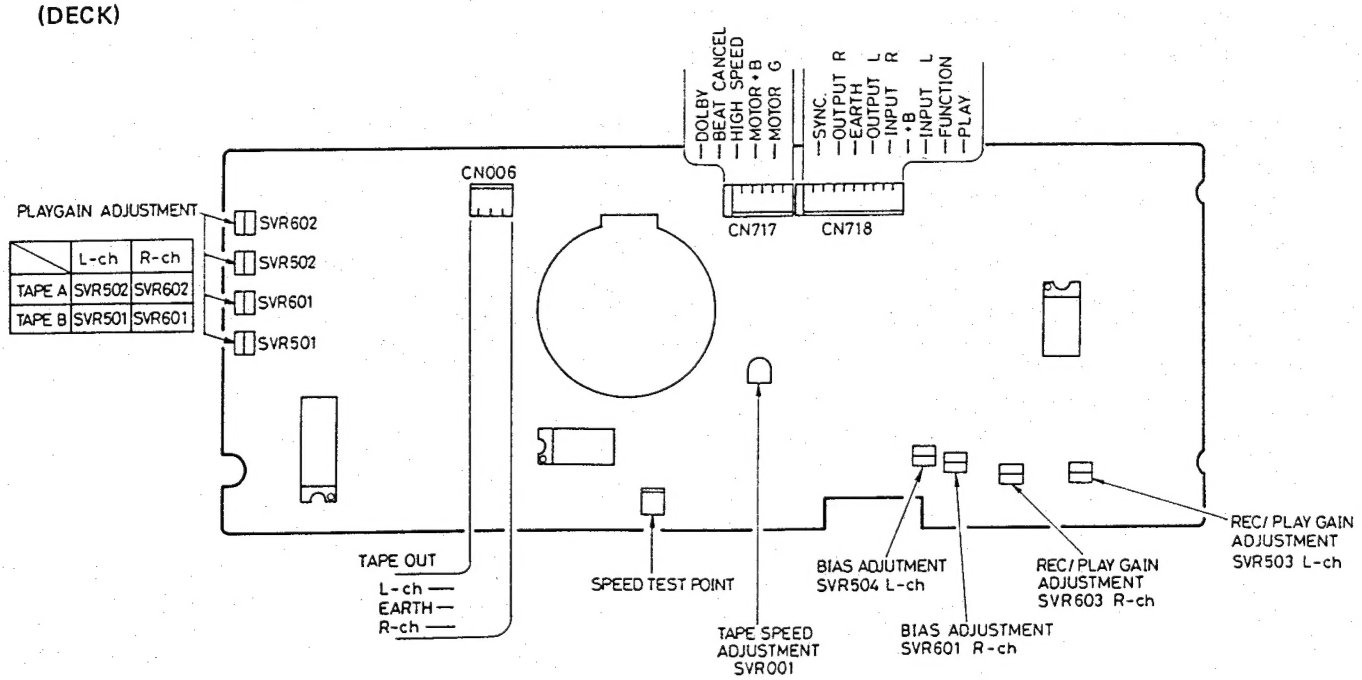
STEP	ITEMS		FREQUENCY INDICATED POSITION	INPUT CONDITIONS		OUTPUT CONDITIONS		ADJUSTING PARTS	STANDARDS
				MEASURING INSTRUCTIONS	CONNECTIONS	MEASURING INSTRUCTIONS	CONNECTIONS		
2	Tuning Cover	Low	144 kHz	----	---	Digital Voltmeter	TP401H) TP102(E)	L154	1.6±0.03V
		High	290 kHz					CT154	7.0±0.05V
3	Tracking	Low	162 kHz	AM-SG(85dB)	IRE Loop Ant.	VTVM Oscilloscope	Tuner Out (L/R,E)	L152	Max.
		High	279 kHz					CT152	

PARTS LOCATIONS

(TUNER)



(DECK)



ADJUSTMENT OF DECK & TORQUE

Amplifier Adjustment

	Item	Deck	Test Tape	Input	DolbySw	Output	Adjust Point	Remarks
1	Head Azimuth	TAPEA TAPEB	VTT738	-	OFF	POINT B	Azimuth Screw	Adjust so as 10kHz output become maximum.
2	Playback Level	TAPEA TAPEB	TCC130 200nW/m	-	OFF	TAPE OUT	SVR502 SVR602 SVR501 SVR601	Adjust so as TAPE OUT output become 0.64V
3	Rec / Play Level	TAPEB	AC224	1kHz -13dB	OFF	TAPE OUT	SVR503 SVR603	Adjust SVR so as Monitor o/p = R/P Level = 0dB ± 1V
4	Rec / Play Frequency	TAPEB	AC224	1kHz (-13dB) 10kHz(-20dB)	ON	TAPE OUT	SVR504 SVR604	Adjust to obtain same output of 1kHz and 10kHz.

Input terminal:LINE IN

Note. 1.Perform BIAS aligment by SVR 504,604 so as No.3 satisfy spec of all item. Perform output aligment by SVR503,603.

2.During aligment,mesurement Beat cancel SW is at 1 condition fundamentally,cfm.R/P frequency characteristic,dolby effect also by 2 condition, when ship out set SW to 1 position.

3.Fix to MAIN VR the position that SP output playing VTT722 is about 2.83V-10dB(2.83V = 1W output).

Tape Speed Adjustment

Please adjust the tape speed of set,according to following.

(1) Set the mechanism to the stop mode.

(2) Insert the test tape (MTT-111N,etc.:3000Hz) into the play-only-mechanism.

Note: Set the test tape near the tape end.

(3) Please the PLAY button.

(4) Insert the driver to the hole at the back of set.

(5) Adjust SVR(on the PCB)so that a frequency counter reading of 3000Hz +-5Hz is obtained.

(6) Press the STOP button,and eject the test tape.

(7) Insert the test tape (TCW-211,etc.:1500Hz) into the Play-only-mechanism.

(8) Insert the test tape (SANYO C-60,etc.) into the Record/Play-mechanism.

(9) Set the High speed test point to the high speed position(shorting).

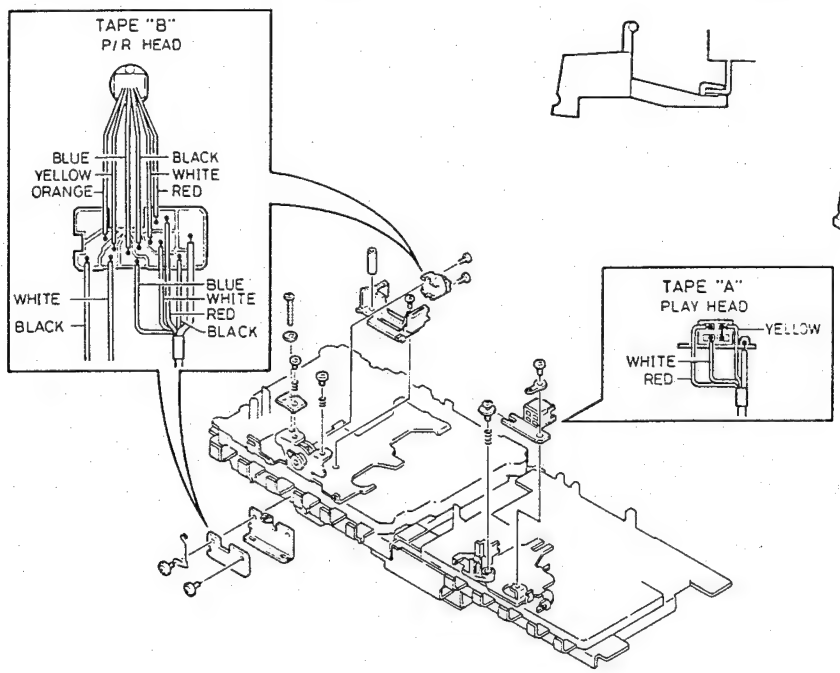
(10) Press the PLAY button of P-mecha and press the REC button of R/P mecha. (The mechanism is high,speed dubbing.)

(11) Confirm that a frequency counter reading of 3000Hz +-10%(2700-3300Hz) is obt ained.

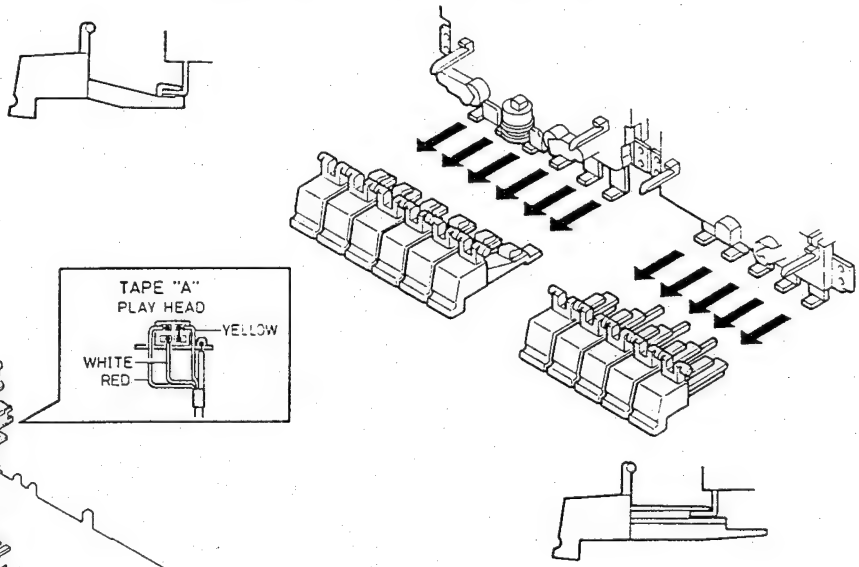
Item	Take-up torque	Back tention	Pulley tention
Test cassette	PLAY:TW2111 FFWD/REW;TW2231	PLAY/F.F:TW211 REW:Trque Gage	Driving power cassette:TW-2412
PLAY	30~60gr.cm	2~5.0gr.cm	>60g
F.FWD	70~140gr.cm	-	
REW	70~140gr.cm	-	

HOW TO DISASSEMBLY THE UNIT

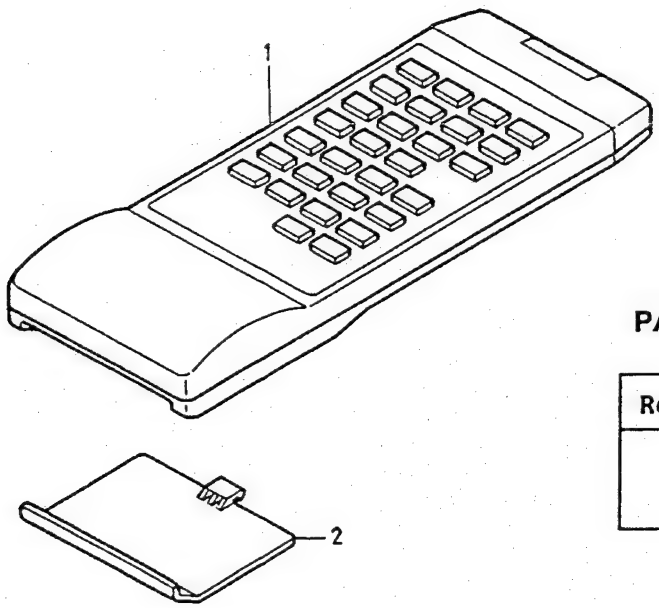
1.REPLACEMENT OF HEAD



2.ASSEMBLE OF MECHANISM BUTTON



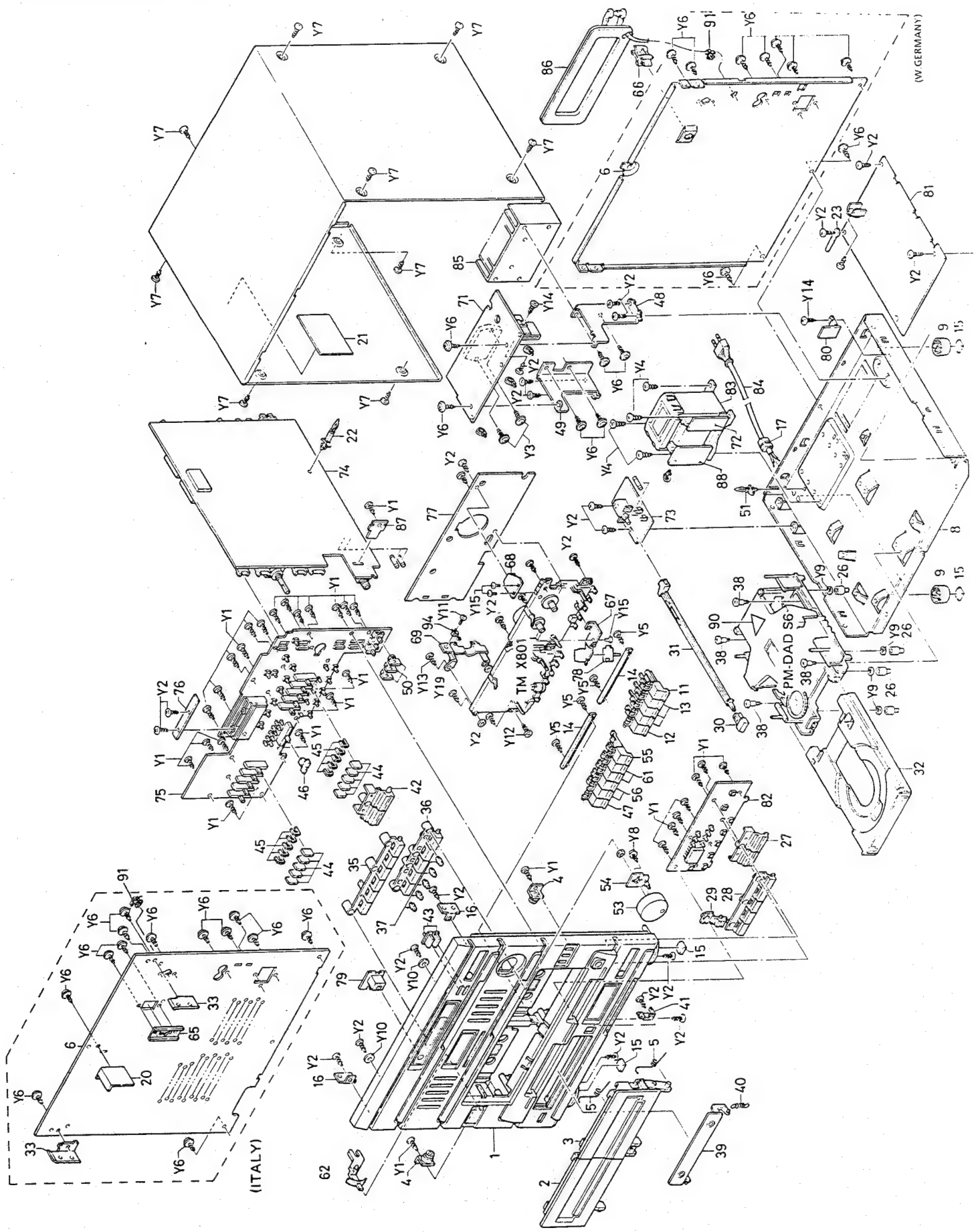
REMOTE CONTROLLER (RB X801)



PARTS LIST

Ref No.	Part No.	Description
1	614 226 0982	ASSY,REMOCON
2	614 226 1002	LID,BATTERY

EXPLODED VIEW (CABINET & CHASSIS)



PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION : Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.

PACKING & ACCESSORIES

Ref. No.	Part No.	Description
	614 221 9997	INNER CARTON (ITALY)
or	614 221 9980	INNER CARTON (W.GERMANY)
	614 221 4787	PAD
	614 208 7855	PAD
	614 176 7024	INNER POLYE COVER (SET)
	614 176 3170	INNER POLYE COVER (INST)
	614 180 4644	PROTECTOR SHEET
	614 191 3681	LABEL, LASER
	614 222 0047	INSTRUCTION MANUAL (ITALY)
or	614 222 0030	INSTRUCTION MANUAL (W.GERMANY)
	614 023 7344	ANT (W.GERMANY)

CABINET & CHASSIS

Ref. No.	Part No.	Description
1	614 221 4466	ASSY, PANEL, FRONT
2	614 221 0178	ASSY, LID, CASSETTE, A
3	614 221 6613	ASSY, LID, CASSETTE, B
4	614 069 0385	GEAR ASSY
5	614 218 0051	SPRING, WIRE, LID CASSETTE
6	614 221 9768	PANEL, REAR (W. GERMANY)
8	614 224 4166	CABINET, BOTTOM
9	614 207 2387	FOOT
11	614 220 6751	KNOB, LEVER, R
12	614 220 6768	KNOB, LEVER L
13	614 220 6775	KNOB, LEVER
14	614 194 9239	BRACKET
15	614 106 4215	STAND
16	614 207 2394	BRACKET-E
17	614 129 1901	FIXER
20	614 198 1888	BRACKET, PANEL REAR (ITALY)
21	614 224 3695	LABEL, SAFETY, LASER
22	614 129 5534	FIXER, TU PCB
23	614 129 9136	LUG, CD PCB
26	614 195 6978	RUBBER CUSHION
27	614 220 6836	BUTTON, CD PLAY
28	614 220 6867	BUTTON, CD FUNCTION
29	614 220 6850	BUTTON, CD EJECT
30	614 220 6874	BUTTON, POWER
31	614 112 7231	JOINT, POWER SW
32	614 221 1410	TABLE, LOADING, CD TRAY
35	614 220 6904	BUTTON, PRESET
36	614 220 6898	BUTTON, FUNCTION
37	614 221 0222	WINDOW, FUNCTION LED
38	412 004 5705	SPECIAL SCREW
39	614 220 6607	DOOR
40	614 221 0246	SPRING, TENS, CD DOOR
41	614 220 6928	BRACKET-M, CD DOOR
42	614 220 6829	BUTTON, TU
43	614 220 6843	BUTTON, BAND MODE
44	614 220 6737	KNOB, SLIDE, EQ
45	614 220 6690	WINDOW, EQ
46	614 220 6744	KNOB, SLIDE, BALANCE
47	614 220 6799	KNOB, LEVER, MECH (L)
48	614 208 9262	BRACKET-E
49	614 208 9279	BRACKET-E
50	614 220 6881	BUTTON, DOLBY DUB SPEED
6	614 221 9744	PANEL, REAR (ITALY)
33	614 207 2455	SUPPORT (ITALY)
51	614 129 5527	FIXER, BOTTOM
53	614 224 3442	KNOB, ROTARY, VOL
55	614 220 6782	KNOB, LEVER, MECH (R)
56	614 222 9750	KNOB, LEVER, MECH
61	614 220 6805	KNOB, LEVER, MECH
62	614 220 6812	KNOB, LEVER, TAPE MODE
64	614 220 6560	CABINET
65	614 113 9678	BRACKET, LOOP ANT (ITALY)
66	614 108 0307	BRACKET, LOOP ANT
67	614 220 6935	BRACKET-M, MECH PCB
68	614 216 9247	BRACKET-E, MECH PCB
69	614 220 6942	BRACKET-M, MECH PCB
90	614 191 3698	LABEL, LASER
	614 130 0382	LUG, DECK PCB
91	614 108 1076	BRACKET, ANT LEAD FIX (W.GERMANY)

FIXING PARTS

Ref. No.	Part No.	Description
Y1	411 021 3503	SCR S-TPG BIN 3X10
Y2	411 021 6405	SCR S-TPG BIN 3X8
Y3	411 020 9506	SCR S-TPG BRZ + FLG 3X16
Y4	411 001 4209	SCR S-TPG BIN 4X8
Y5	411 021 3107	SCR S-TPG BIN 2.6X8
Y6	411 020 8905	SCR S-TPG BRZ + FLG 3X10
Y7	411 021 6603	SCR S-TPG BIN 3X8
Y9	411 087 8108	WASHER V 3X8X0.5
Y10	411 092 3303	WASHER Z 3X12X1
Y11	411 020 1302	SCR PAN PCS 1.7X5
Y12	411 021 5705	SCR S-TPG BIN 3X6
Y13	411 021 0809	SCR S-TPG BIN 2X6
Y14	411 027 3101	SCR S-TPG BIN 3X8
Y15	411 022 7500	SCR S-TPG PAN 2X4
Y18	411 024 3807	SCR S-TPG PAN + FLG 2X8
Y19	411 021 4005	SCR S-TPG BIN 3X12

ELECTRICAL PARTS

Ref. No.	Part No.	Description
83	⚠ 614 221 7429	POWER TRANS
84	⚠ 614 023 3100	POWER CORD
85	614 221 4916	HEAT SINK
86	614 036 8970	LOOP ANT ASSY
87	614 224 4227	PCB, HP (ITALY)
or	614 224 4227	PCB, HP (W.GERMANY)
88	614 221 4534	PCB, PT PRI (ITALY)
or	614 225 6930	PCB, PT PRI (W.GERMANY)
94	614 195 7104	SWITCH
	614 223 8066	ASSY, CONNECTOR-S
	411 027 1602	SCR S-TPC BIN 2.6X6
	614 129 9136	LUG
F701	⚠ 423 016 8004	FUSE 250V 3.15A
F801	⚠ 423 016 8004	FUSE 250V 3.15A
F999	⚠ 423 017 0007	FUSE 250V 1A

PARTS LIST

MAIN AMP PCB ASSY

Ref. No.	Part No.	Description
71	614 221 4350	ASSY, PCB, MAIN AMP (ITALY)
or	614 225 6732	ASSY, PCB, MAIN AMP (W.GERMANY)
	614 223 9216	SOCKET
or	614 020 6555	SOCKET, 3P
	614 020 1246	SOCKET, 5P
	614 020 1222	SOCKET, 3P
	614 216 5249	SOCKET
	614 224 3527	ASSY, CONNECTOR-S
IC710	409 067 2109	IC STK4162MK2
IC903	409 078 2402	IC L7812ML
or	409 122 6202	IC NJM7812FA
or	409 168 2107	IC UPC7812HF
or	409 001 7603	IC AN7812F
or	614 203 7362	HEAT SINK
Q901	405 015 1606	TR 2SC2655-Y
Q902	405 001 9302	TR 2SA1020-Y
Q903	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
D901	407 077 7800	DIODE RBV-402LF-A
D905	407 004 9105	DIODE DSF10C
D906	407 004 9105	DIODE DSF10C
D907	407 004 9105	DIODE DSF10C
D908	407 004 9105	DIODE DSF10C
D909	407 053 3208	ZENER DIODE MTZ12B
D910	407 053 3208	ZENER DIODE MTZ12B
D911	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D912	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D948	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
C901	403 057 3800	POLYESTER 0.1U M 50V
C902	403 057 3800	POLYESTER 0.1U M 50V
C903	403 057 3800	POLYESTER 0.1U M 50V
C906	403 053 4405	ELECT 2200U M 35V
R757	⚠ 401 008 7204	CARBON 2.2K JB 1/2W
R857	⚠ 401 008 7204	CARBON 2.2K JB 1/2W
R901	⚠ 402 045 1507	RESISTOR 0.47 J- 1W
R902	⚠ 402 023 1703	FUSIBLE RES 100 J- 1/4W
R903	⚠ 402 023 1703	FUSIBLE RES 100 J- 1/4W
R914	⚠ 402 023 1703	FUSIBLE RES 100 J- 1/4W
R915	⚠ 402 023 1703	FUSIBLE RES 100 J- 1/4W

PT SEC PCB ASSY

Ref. No.	Part No.	Description
72	614 221 4374	ASSY, PCB, P.T SEC (ITALY)
or	614 225 6756	ASSY, PCB, PT SEC (W.GERMANY)
	614 020 6555	SOCKET, 3P
	614 020 1246	SOCKET, 5P
IC901	⚠ 614 205 2914	IC PROTECTOR ICP-N25
IC902	⚠ 614 205 2914	IC PROTECTOR ICP-N25

POWER SWITCH PCB ASSY

Ref. No.	Part No.	Description
73	614 221 4381	ASSY, PCB, POWER SW (ITALY)
or	614 225 6763	ASSY, PCB, POWER SW (W.GERMANY)
	⚠ 614 018 8967	SWITCH
	⚠ 614 086 2164	COVER
	614 208 4540	FUSE HOLDER
	614 017 8203	TERMINAL BOARD
C999	⚠ 404 000 1607	CERAMIC 0.01U F 400V
or	⚠ 404 033 3401	CERAMIC 0.01U Z -

VR MOTOR PCB ASSY

Ref. No.	Part No.	Description
94	614 221 9348	ASSY, PCB, VR MOTOR (ITALY)
or	614 224 4036	ASSY, PCB, VR MOTOR (W.GERMANY)
	614 020 6562	SOCKET, 4P
	614 017 3819	PLUG, 2P
L961	614 027 9214	CHOKE COIL
IC961	409 114 4803	IC LB1641
D961	407 053 5806	ZENER DIODE MTZ4.7B
C961	403 001 1609	CERAMIC 0.01U K 16V
C962	403 001 1609	CERAMIC 0.01U K 16V
R966	⚠ 402 004 4303	FUSIBLE RES 10 J- 1/4W
R974	401 014 4105	CARBON 1.5K JA 1/4W

TUNER, PRE, PCB ASSY

Ref. No.	Part No.	Description
74	614 221 9362	ASSY, PCB, TUNER, PRI (ITALY)
or	614 224 4043	ASSY, PCB, TUNER, PRE (W.GERMANY)
	614 035 2702	SOCKET, VIDEO (ITALY)
or	614 224 9864	SOCKET, VIDEO (W.GERMANY)
	614 019 8553	SOCKET, PHONO
	614 016 8341	PLUG, 2P
	614 208 2379	SOCKET, PRE-FRONT 1
	614 208 2331	SOCKET, PRE-FRONT 2
	614 208 2348	SOCKET, PRE-FRONT 3
	614 035 4942	SOCKET, 5P
	614 017 2102	PLUG, 3P
	614 035 1712	SOCKET, HEAD PHONE
	614 218 0068	TERMINAL, SP
	614 216 5157	PLUG, 10P
	614 020 6623	SOCKET, 10P
	614 017 1440	PLUG, 3P
	614 208 4540	FUSE HOLDER
	614 208 2355	SOCKET, PRE-FRONT 4
	614 020 6562	SOCKET, 4P
	614 020 1222	SOCKET, 3P
	614 116 5349	SHIELD PLATE
	614 117 1029	SHIELD PLATE
	614 210 4675	FILTER
	614 218 2840	TERMINAL
CT101	614 007 3683	TRIMMER
CT151	614 007 6356	TRIMMER
CT152	614 007 6356	TRIMMER
CT153	614 007 6332	TRIMMER
CT154	614 007 6332	TRIMMER
T101	614 028 6922	FILTER
T201	614 030 3476	I.F.T
T202	614 030 4114	I.F.T
T204	614 029 3906	MX COIL
T301	614 027 7845	CHOKE
T302	614 027 7845	CHOKE
L101	614 034 9870	VHF COIL
L102	614 034 9887	VHF COIL
L103	614 028 4058	FILTER
L104	614 035 0036	VHF COIL
L105	614 034 8286	VHF COIL (W.GERMANY)
L121	614 034 7135	VHF COIL (W.GERMANY)
L122	614 034 7135	VHF COIL (W.GERMANY)
L151	614 033 8904	O.S.C COIL
L152	614 197 4002	ANT COIL
L153	614 034 1003	O.S.C COIL
L154	614 197 3975	ANT COIL
L155	614 028 4379	FILTER
X201	614 030 5128	I.F FILTER
X202	614 030 5128	I.F FILTER
X203	614 030 5128	I.F FILTER
X204	614 030 7443	I.F FILTER
X205	614 211 2939	FILTER, 459KHZ
VR707	614 221 7443	VR, ROTARY
SVR201	614 003 3267	SEMI V.R, 20K
or	614 006 9693	VR, 20K

PARTS LIST

Ref. No.	Part No.	Description
SVR202	614 003 3250	SEMI V.R, 10K
or	614 006 9686	VR, 10K
SVR302	614 003 3250	SEMI V.R, 10K
or	614 006 9686	VR, 10K
IC201	409 016 2204	IC LA1265S
IC301	409 016 9500	IC LA3361
IC402	409 154 0209	IC TC9172AP
IC701	409 018 4909	IC LA6458S
IC702	409 022 3608	IC LC7818
IC703	409 053 1703	IC TC9174P
IC711	409 018 4909	IC LA6458S
Q101	405 092 5702	TR 2SK606-Q
Q102	405 012 5904	TR 2SC1923-Y
Q103	405 012 5904	TR 2SC1923-Y
Q104	405 012 5904	TR 2SC1923-Y
Q105	405 092 5702	TR 2SK606-Q
Q151	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q152	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q153	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q154	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q155	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q157	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q158	405 078 5405	TR 2SK301-R
Q201	405 018 7902	TR 2SC380TM-O
Q202	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q301	405 012 2002	TR 2SC1815-GR
Q302	405 012 2002	TR 2SC1815-GR
Q303	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q304	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q351	405 001 7001	TR 2SA1015-GR
Q352	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q354	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q355	405 001 7001	TR 2SA1015-GR
Q357	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q358	405 001 7001	TR 2SA1015-GR
Q361	405 001 7001	TR 2SA1015-GR
Q370	405 001 7001	TR 2SA1015-GR
Q371	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q372	405 001 7001	TR 2SA1015-GR
Q402	405 078 4903	TR 2SC2634-R
Q403	405 078 4903	TR 2SC2634-R
Q771	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q871	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q904	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q905	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q906	405 001 7001	TR 2SA1015-GR
or	405 005 2002	TR 2SA733-P
D101	407 105 0100	VARACTOR DI SVC211-B-AL
D102	407 105 0100	VARACTOR DI SVC211-B-AL
D103	407 105 0100	VARACTOR DI SVC211-B-AL
D104	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D151	407 091 5004	VARACTOR DI SVC321SPA-C-2
D152	407 091 5004	VARACTOR DI SVC321SPA-C-2
D201	407 012 5809	DIODE 1SS176

Ref. No.	Part No.	Description
D201	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D301	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D302	407 005 4505	DIODE DS442X
or	407 013 1701	DIODE 1S1588
or	407 013 7109	DIODE 1S2473
D351	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D352	407 053 8807	ZENER DIODE MTZ9.1B
D401	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D430	407 053 6704	ZENER DIODE MTZ5.6B
D913	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D914	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D915	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D916	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D917	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D918	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D919	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D920	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D921	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D922	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D923	407 053 7107	ZENER DIODE MTZ6.2B
D924	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D950	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
C51	403 062 5103	POLYESTER 5600P K 50V (W.GERMANY)
C52	403 062 5103	POLYESTER 5600P K 50V (W.GERMANY)
C53	403 062 5103	POLYESTER 5600P K 50V (W.GERMANY)
C54	403 062 5103	POLYESTER 5600P K 50V (W.GERMANY)
C154	403 082 2205	POLYPRO 560P J 100V
C155	403 082 2007	POLYPRO 510P J 100V
C157	403 033 3206	CERAMIC 82P J 50V, NPO
C306	403 080 5000	POLYPRO 1000P J 100V
C407	403 106 1603	NP-ELECT 1U Q 50V
C734	403 057 3800	POLYESTER 0.1U M 50V
C735	403 057 3800	POLYESTER 0.1U M 50V
C834	403 057 3800	POLYESTER 0.1U M 50V
C835	403 057 3800	POLYESTER 0.1U M 50V
R380	⚠ 401 018 1209	CARBON 33 JB 1/4W
R743	⚠ 401 010 5601	CARBON 5.6 JB 1/2W
R744	⚠ 401 009 5506	CARBON 330 JB 1/2W
R843	⚠ 401 010 5601	CARBON 5.6 JB 1/2W
R844	⚠ 401 009 5506	CARBON 330 JB 1/2W

FRONT PCB ASSY

Ref. No.	Part No.	Description
75	614 221 4428	ASSY, PCB, FRONT (ITALY)
or	614 225 6770	ASSY, PCB, FRONT (W.GERMANY)
	614 221 2448	SWITCH, PUSH
	614 208 2287	PLUG, FRONT-PRE 1
	614 208 2249	PLUG, FRONT-PRE 2

PARTS LIST

Ref. No.	Part No.	Description
	614 208 2256	PLUG, FRONT-PRE 3
	614 208 2263	PLUG, FRONT-PRE 4
	614 020 6586	SOCKET, 6P
	614 216 9285	MOUNT-E
	614 220 3651	SHEET
	614 112 2328	DOUBLE FACE
	614 217 2612	LCD
	614 035 4928	SOCKET, 3P
X401	614 008 0063	CRYSTAL, 7.2MHZ
or	614 204 0317	CRYSTAL
S401	614 220 5655	SWITCH, TACT
S402	614 220 5655	SWITCH, TACT
S403	614 220 5655	SWITCH, TACT
S404	614 220 5655	SWITCH, TACT
S405	614 220 5655	SWITCH, TACT
S406	614 220 5655	SWITCH, TACT
S407	614 220 5655	SWITCH, TACT
S408	614 220 5655	SWITCH, TACT
S409	614 220 5655	SWITCH, TACT
S410	614 220 5655	SWITCH, TACT
S902	614 220 5655	SWITCH, TACT
S903	614 220 5655	SWITCH, TACT
S904	614 220 5655	SWITCH, TACT
S905	614 220 5655	SWITCH, TACT
S906	614 220 5655	SWITCH, TACT
VR701	614 221 4756	VR, SLIDE
VR702	614 221 4756	VR, SLIDE
VR703	614 221 4756	VR, SLIDE
VR704	614 221 4756	VR, SLIDE
VR705	614 221 4756	VR, SLIDE
VR706	614 003 5766	V.R
VR801	614 221 4756	VR, SLIDE
VR802	614 221 4756	VR, SLIDE
VR803	614 221 4756	VR, SLIDE
VR804	614 221 4756	VR, SLIDE
VR805	614 221 4756	VR, SLIDE
CN401	614 035 4911	SOCKET
IC401	410 064 8407	IC TC9306F-045 BS
IC721	409 018 4909	IC LA6458S
IC761	409 003 0305	IC BA6137
IC861	409 003 0305	IC BA6137
Q404	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
D402	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D403	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D404	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D405	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D406	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D407	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D408	407 005 4505	DIODE DS442X
or	407 013 1701	DIODE 1S1588
or	407 013 7109	DIODE 1S2473
D409	407 005 4505	DIODE DS442X
or	407 013 1701	DIODE 1S1588
or	407 013 7109	DIODE 1S2473
D410	407 005 4505	DIODE DS442X
or	407 013 1701	DIODE 1S1588
or	407 013 7109	DIODE 1S2473
D411	407 005 4505	DIODE DS442X
or	407 013 1701	DIODE 1S1588
or	407 013 7109	DIODE 1S2473

Ref. No.	Part No.	Description
D431	407 007 9904	DIODE GMA01
D761	408 008 9108	LED SLR-56VC70F130-N
D762	408 008 9108	LED SLR-56VC70F130-N
D763	408 008 9108	LED SLR-56VC70F130-N
D764	408 008 9108	LED SLR-56VC70F130-N
D765	408 008 9108	LED SLR-56VC70F130-N
D861	408 008 9108	LED SLR-56VC70F130-N
D862	408 008 9108	LED SLR-56VC70F130-N
D863	408 008 9108	LED SLR-56VC70F130-N
D864	408 008 9108	LED SLR-56VC70F130-N
D865	408 008 9108	LED SLR-56VC70F130-N
D933	408 008 9108	LED SLR-56VC70F130-N
D934	408 008 9108	LED SLR-56VC70F130-N
D935	408 008 9108	LED SLR-56VC70F130-N
D936	408 008 9108	LED SLR-56VC70F130-N
D937	408 008 9108	LED SLR-56VC70F130-N
C401	403 019 0403	CERAMIC 24P J 50V, NPO
C402	403 019 0403	CERAMIC 24P J 50V, NPO
C410	403 196 9602	DL-ELECT 0.047F Z 5.5V

LAMP PCB ASSY

Ref. No.	Part No.	Description
76	614 221 4435	ASSY, PCB, LAMP (ITALY)
or	614 225 6787	ASSY, PCB, LAMP (W.GERMANY)
CN402	614 035 4911	SOCKET, 2P
D441	407 129 1107	LED SLP-880A-51
D442	407 129 1107	LED SLP-880A-51
D443	407 129 1107	LED SLP-880A-51

LED PCB ASSY

Ref. No.	Part No.	Description
95	614 225 7524	ASSY, PCB, LED (ITALY)
or	614 224 4050	ASSY, PCB, LED (W.GERMANY)
CN711	614 225 0129	ASSY, CONNECTOR-S
D962	407 134 8009	LED SLC-22VR5F-G
or	407 134 8108	LED SLC-22VR5F-H

DECK AMP PCB ASSY

Ref. No.	Part No.	Description
77	614 221 4947	ASSY, PCB, DECK AMP
L501	614 029 3807	MX COIL
L502	614 027 8545	CHOKE
or	614 210 3685	INDUCTOR, FERITE
L511	614 202 8865	FILTER
L512	614 029 3142	MX COIL
L601	614 029 3807	MX COIL
L602	614 027 8545	CHOKE
or	614 210 3685	INDUCTOR, FERITE
L611	614 202 8865	FILTER
L612	614 029 3142	MX COIL
L981	614 224 3367	TRANS, OSC
SVR1	614 003 3090	SEMI V.R, 20K
SVR501	614 003 6183	SEMI V.R, 10K
SVR502	614 003 6183	SEMI V.R, 10K
SVR503	614 003 6183	SEMI V.R, 10K
SVR504	614 003 6220	SEMI V.R, 100K
SVR601	614 003 6183	SEMI V.R, 10K
SVR602	614 003 6183	SEMI V R, 10K
SVR603	614 003 6183	SEMI V.R, 10K
SVR604	614 003 6220	SEMI V.R, 100K
CN1	614 017 2102	PLUG, 3P
or	614 020 8870	SOCKET, 6P
CN2	614 017 2133	PLUG, 6P
or	614 020 8917	SOCKET, 10P
CN5	614 016 4084	PLUG, 2P

PARTS LIST

Ref. No.	Part No.	Description
CN6	614 020 8849	SOCKET, TAPE OUT
CN7	614 223 9223	SOCKET, MOTOR
CN8	614 223 9209	SOCKET, STOP SW
CN9	614 227 3623	ASSY, CONNECTOR-S
CN10	614 224 2650	ASSY, CONNECTOR-S
CN717	614 020 8870	SOCKET, 6P
CN718	614 020 8917	SOCKET, 10P
IC1	409 020 9107	IC LC4069UB
or	409 051 3907	IC TC4069UBP
or	409 059 3206	IC UPD4069UBC
IC501	409 121 8702	IC LA3246
IC502	409 145 8405	IC UPC1330HA
IC521	409 016 8701	IC LA3220
IC551	409 119 9803	IC CXA1101P
Q1	405 001 7001	TR 2SA1015-GR
or	405 005 2002	TR 2SA733-P
Q2	405 001 7001	TR 2SA1015-GR
or	405 005 2002	TR 2SA733-P
Q3	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4	405 001 7001	TR 2SA1015-GR
or	405 005 2002	TR 2SA733-P
Q5	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q6	405 012 7403	TR 2SC2001-K
or	405 013 1301	TR 2SC2120-Y
Q8	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q9	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q10	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q501	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q502	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q504	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q505	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q506	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q507	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q508	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q509	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q510	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q601	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q602	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q604	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K

Ref. No.	Part No.	Description
Q605	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q606	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q607	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q608	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q609	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q981	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q982	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q983	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q984	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q985	405 011 1907	TR 2SC1627-Y
D1	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D2	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D3	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D4	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D5	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D6	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D7	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D8	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D9	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D10	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D11	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D12	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D13	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D14	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D15	407 005 4505	DIODE DS442X
or	407 013 7109	DIODE 1S2473
D16	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D17	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D18	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D19	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D99	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D501	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D502	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D601	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D602	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133

Ref. No.	Part No.	Description
C985	403 080 9602	POLYPRO 0.015U J 100V
R981	⚠ 402 004 4303	FUSIBLE RES 10 J- 1/4W

STOP SW PCB ASSY

Ref. No.	Part No.	Description
78	614 221 4954	ASSY, PCB, STOP SW
	614 203 7911	SWITCH, STOP SW
CN58	614 223 9209	SOCKET

IR PCB ASSY

Ref. No.	Part No.	Description
79	614 224 2643	ASSY, PCB, IR (ITALY)
or	614 225 6794	ASSY, PCB, IR (W.GERMANY)
	614 035 4928	SOCKET, 3P
S411	614 217 8935	SWITCH

MOTOR REG PCB ASSY

Ref. No.	Part No.	Description
80	614 224 9529	ASSY, PCB, MOTOR REG (ITALY)
or	614 225 6800	ASSY, PCB, MOTOR REG (W.GERMANY)
	614 020 6555	SOCKET, 3P
	614 223 9216	SOCKET
IC904	409 078 2402	IC L7812ML
or	409 122 6202	IC NJM7812FA
or	409 168 2107	IC UPC7812HF
or	409 001 7603	IC AN7812F

CD MAIN PCB ASSY

Ref. No.	Part No.	Description
81	614 222 9125	ASSY, PCB, CD MAIN
	614 121 5891	HEAT SINK
	614 121 6829	HEAT SINK
	614 211 2991	SOCKET
T1101	614 194 3596	FILTER
T1102	614 194 3619	O.S.C COIL
L1401	614 028 4133	FILTER
L1701	614 028 4256	FILTER
X1301	614 215 5523	RESONATOR, 4.19MHZ
or	614 215 5561	RESONATOR
X1401	614 215 5509	RESONATOR
or	614 215 5547	RESONATOR, 8.64MHZ
SVR1102	614 223 1944	POTENTIOMETER
SVR1104	614 223 1913	POTENTIOMETER
CN705	614 020 1222	SOCKET
CN710	614 020 8849	SOCKET
CN715	614 035 5963	SOCKET
CN1001	614 017 2577	PLUG
CN1002	614 220 2739	PLUG
CN1003	614 017 2553	PLUG
CN1004	614 017 2546	PLUG
CN1007	614 035 5994	SOCKET
CN1008	614 035 6007	SOCKET
TP12	614 016 3858	PLUG
TP14	614 016 3858	PLUG
or	614 016 3865	PLUG
TP18	614 016 3858	PLUG
IC5	⚠ 409 189 4203	IC M5278D05
or	⚠ 409 224 2102	IC AN79N05
IC1101	409 124 6507	IC LA9200NM
IC1201	⚠ 409 018 5500	IC LA6510

Ref. No.	Part No.	Description
IC1202	⚠ 409 018 5500	IC LA6510
IC1301	410 099 9608	IC CXP5046H-225S
IC1401	409 200 0702	IC LC7860KA
IC1402	409 123 7109	IC LC3517BS-15
or	409 209 0307	IC UM6116K-2
IC1501	409 136 7509	IC LC7881-C
IC1601	⚠ 409 189 4203	IC M5278D05
IC1602	⚠ 409 224 2102	IC AN79N05
Q1101	405 080 7107	TR DTA113ZS
Q1201	405 014 5209	TR 2SC2458GR
or	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
Q1202	405 014 5209	TR 2SC2458GR
or	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
Q1203	405 001 0309	TR RN1203
or	405 000 4407	TR DTC124ES
Q1206	405 033 6805	TR 2SD1468S-S
Q1207	405 014 5209	TR 2SC2458GR
or	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
Q1300	405 001 0309	TR RN1203
or	405 000 4407	TR DTC124ES
Q1301	405 014 5209	TR 2SC2458GR
or	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
Q1302	405 001 0309	TR RN1203
or	405 000 4407	TR DTC124ES
Q1303	405 014 5209	TR 2SC2458GR
or	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
Q1323	405 014 5209	TR 2SC2458GR
or	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
Q1324	405 014 5209	TR 2SC2458GR
or	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
Q1325	405 002 1305	TR 2SA1048-Y
or	405 006 1806	TR 2SA933S-R
or	405 006 1905	TR 2SA933S-S
Q1326	405 099 1004	TR 2SD592-S
or	405 099 7501	TR 2SD592-R
Q1327	405 099 0908	TR 2SB621-S
or	405 099 7303	TR 2SB621-R
Q1501	405 014 5209	TR 2SC2458GR
or	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
Q1502	405 014 5209	TR 2SC2458GR
or	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
Q1503	405 014 5209	TR 2SC2458GR
or	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
Q1504	405 014 5209	TR 2SC2458GR
or	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
Q1505	405 014 5209	TR 2SC2458GR
or	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
Q1602	405 001 0309	TR RN1203
or	405 000 4407	TR DTC124ES
D1101	407 105 0100	VARACTOR DI SVC211-B-AL
D1103	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D1104	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D1105	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D1106	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D1201	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D1202	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133

PARTS LIST

Ref. No.	Part No.	Description
D1301	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D1302	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D1314	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D1601	407 004 9105	DIODE DSF10C
or	407 012 3300	DIODE 1SR35-200A
D1602	407 004 9105	DIODE DSF10C
or	407 012 3300	DIODE 1SR35-200A
D1603	407 004 9105	DIODE DSF10C
or	407 012 3300	DIODE 1SR35-200A
D1604	407 004 9105	DIODE DSF10C
or	407 012 3300	DIODE 1SR35-200A
D1609	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D1610	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
C1117	403 067 6204	MT-COMPO 0.15U J 50V
C1133	403 080 5000	POLYPRO 1000P J 100V
C1235	403 154 2102	NP-ELECT 1U M 50V, NPO
C1507	403 062 5103	POLYESTER 5600P K 50V
C1508	403 062 5103	POLYESTER 5600P K 50V
C1511	403 056 7908	POLYESTER 1000P K 50V
C1512	403 056 7908	POLYESTER 1000P K 50V
C1606	403 043 3104	ELECT 2200U M 16V
C1607	403 043 3104	ELECT 2200U M 16V
R1601	⚠ 402 046 7102	RESISTOR 1 J- 1/2W
R1602	⚠ 402 046 7102	RESISTOR 1 J- 1/2W

CD SW PCB ASSY

Ref. No.	Part No.	Description
82	614 222 9149	ASSY, PCB, CD SW
S1701	614 220 5631	SWITCH, TACT
S1702	614 220 5631	SWITCH, TACT
S1703	614 220 5631	SWITCH, TACT
S1704	614 220 5631	SWITCH, TACT
S1705	614 220 5631	SWITCH, TACT
S1706	614 220 5631	SWITCH, TACT
S1707	614 220 5631	SWITCH, TACT
S1708	614 220 5631	SWITCH, TACT
CN1007	614 035 4973	SOCKET, 8P
CN1008	614 035 4980	SOCKET, 9P
Q1701	405 082 4609	TR DTA123YS
Q1702	405 082 4609	TR DTA123YS
Q1703	405 082 4609	TR DTA123YS
D1701	407 081 5106	LED SL-1283-20
D1702	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D1703	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D1704	408 011 8709	LED SLR-56MC70F130-P
or	408 012 1808	LED SLR-56MC70F130-Q
D1705	408 008 9108	LED SLR-56VC70F130-N
or	408 008 9207	LED SLR-56VC70F130-P
D1706	408 008 9108	LED SLR-56VC70F130-N
or	408 008 9207	LED SLR-56VC70F130-P
D1707	408 011 8709	LED SLR-56MC70F130-P
or	408 012 1808	LED SLR-56MC70F130-Q
D1708	408 008 9108	LED SLR-56VC70F130-N
or	408 008 9207	LED SLR-56VC70F130-P
D1709	408 008 9108	LED SLR-56VC70F130-N
or	408 008 9207	LED SLR-56VC70F130-P
D1710	408 008 9108	LED SLR-56VC70F130-N
or	408 008 9207	LED SLR-56VC70F130-P

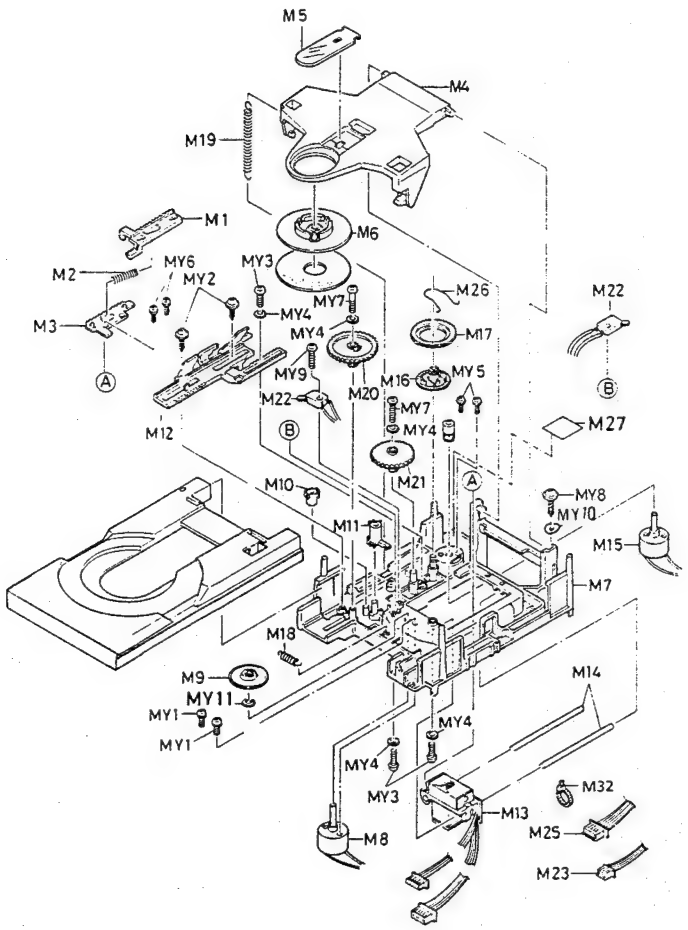
EXPLODED VIEW & PARTS LIST (CD MECHANISM)

MECHANISM

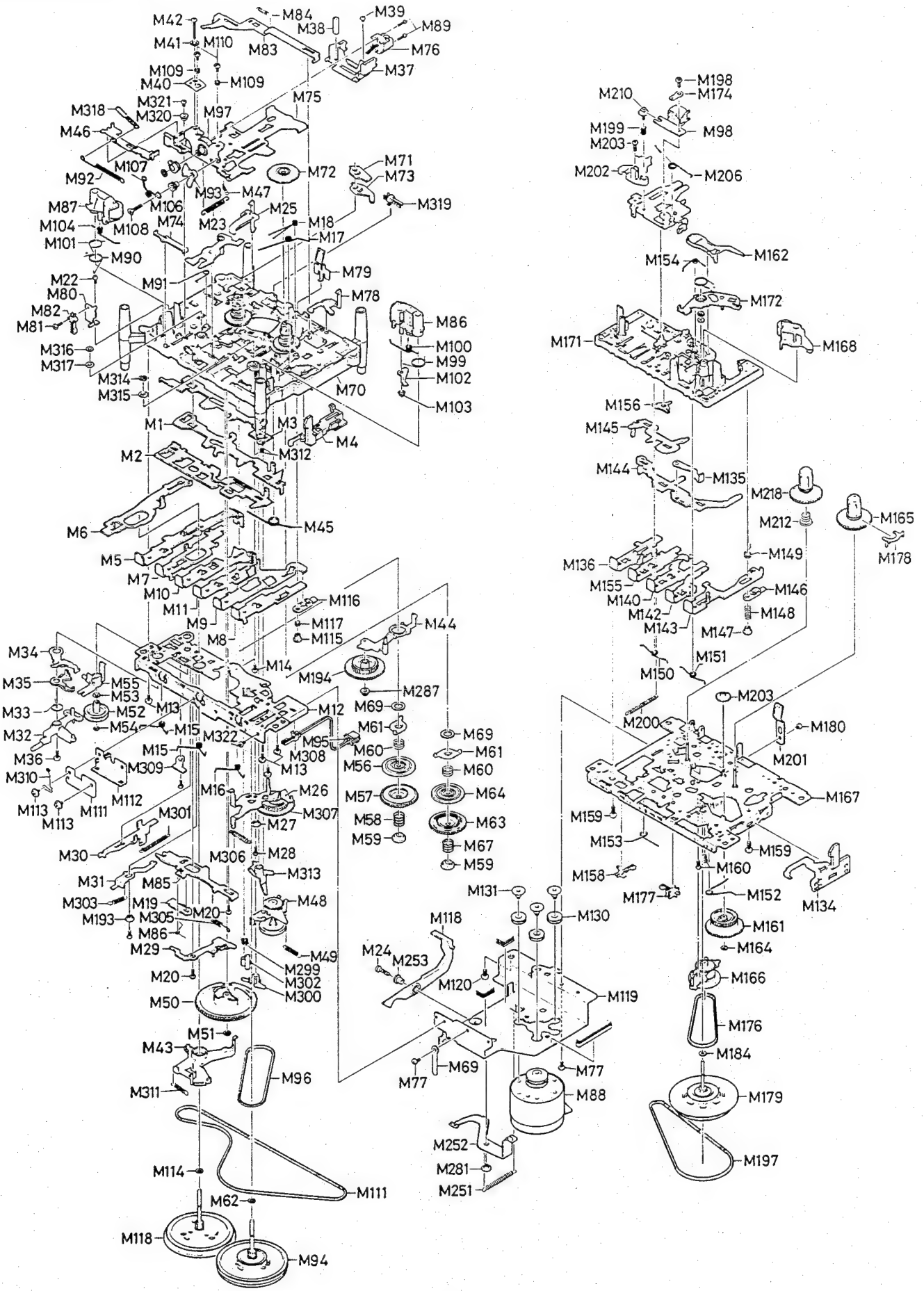
Ref. No.	Part No.	Description
M1	614 216 9766	GEAR, PICK UP RACK UPPER
M2	614 216 9896	SPRING, COMP, RACK BACK
M3	614 216 9759	GEAR, PICK UP RACK LOWER
M4	614 216 9858	LEVER, CHUCK
M5	614 211 6654	SPRING PLATE, CHUCK
M6	614 219 0104	ASSY, PULLEY, CHUCK
M7	614 216 9728	CHASSIS
M8	614 045 2105	COMMUTATE MOTOR, SPINDLE
M9	614 216 9841	TURNTABLE
M10	614 216 9742	GEAR, CHANGE SLIDE
M11	614 216 9810	GEAR, CHANGE RACK
M12	614 216 9865	SLIDE, DRIVING
M13	⚠ 614 218 6855	PICKUP, LASER
M14	614 145 9622	SHAFT, PICK UP GUIDE
M15	614 217 7068	COMMUTATE MOTOR ASSY, SLED
M16	614 216 9797	GEAR, CLUTCH INNER
M17	614 216 9780	GEAR, CLUTCH OUTER
M18	614 216 9889	SPRING, TENS
M19	614 223 2217	SPRING, TENS, CHUCK LEVER BACK
M20	614 216 9773	GEAR, TRAY SLED
M21	614 216 9803	GEAR, PICK UP SLED
M22	614 018 9223	SWITCH, LIMIT OR LOAD OUT
M23	614 221 7993	ASSY, CONNECTOR-S, 3P
M25	614 221 8006	ASSY, CONNECTOR-S, 4P
M26	614 216 9902	SPRING, WIRE, CLUTCH
M27	614 223 4181	SHEET, TRAY UP
M32	614 129 4971	FIXER, LEAD

FIXING PARTS (MECHANISM)

Ref. No.	Part No.	Description
MY2	411 020 9902	SCR S-TPG BRZ+FLG 3X8, SLIDE FIX
MY3	411 022 8408	SCR S-TPG PAN 2X8, SHAFT FIX
MY4	411 087 4704	WASHER V 2X6X0.4, SHAFT FIX
MY5	411 044 7205	SCR PAN+SW 2X4, MOTOR FIX
MY6	411 044 7502	SCR PAN+SW 2X5, RACK FIX
MY7	411 119 8908	SCR S-TPG PAN 2X14, GEAR FIX
MY8	411 020 9100	SCR S-TPG BRZ+FLG 3X12, LEVER (EUROPE/SPAIN)
or	412 037 1705	SCR, SPECIAL (U.K)
MY9	411 104 4205	SCR TPG PAN PCS 1.7X8, SW FIX
MY10	411 092 2900	WASHER Z 3X10X1, LEVER FIX
MY11	412 032 0208	SPECIAL WASHER



EXPLODED VIEW (MECHANISM)



PARTS LIST (TAPE MECHANISM)

MECHANISM

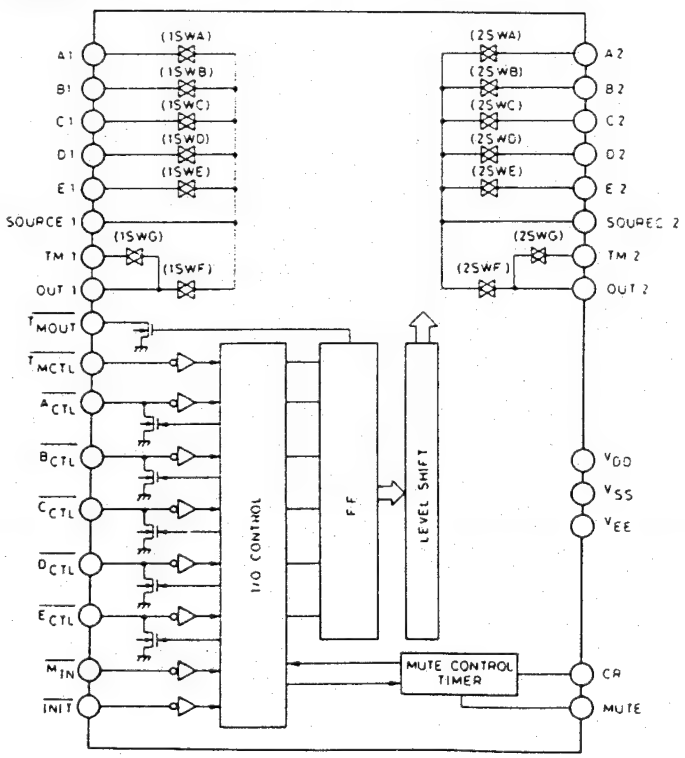
Ref. No.	Part No.	Description
M1	614 195 8774	SLIDE, SW
M2	614 224 5255	SLIDE, LOCK
M3	614 195 8781	SLIDE, R/F
M4	614 195 8699	SLIDE, EJECT
M5	614 209 8486	SLIDE, REC
M6	614 195 8743	SLIDE, PLAY
M7	614 209 8493	SLIDE, MR
M8	614 209 8455	SLIDE, STOP
M9	614 210 7331	SLIDE ASSY
M10	614 209 8479	SLIDE, REW
M11	614 209 8462	SLIDE, FF
M12	614 195 8873	BRACKET SLIDE
M13	411 021 0809	SCR S-TPG BIN 2X6
M14	411 022 7807	SCR S-TPG PAN 2X6
M15	614 200 6535	SPRING WIRE, STOP/ PAUSE/REW FF RESET
M16	614 200 6528	SPRING WIRE, R/P RESET
M17	614 200 6542	SPRING WIRE
M18	614 200 6559	SPRING WIRE, SW/R.F SLIDE
M19	614 195 8866	SLIDE, KICK LEVER
M20	412 031 2104	SPECIAL SCREW
M22	411 022 7500	SCR S-TPG PAN 2X4
M23	614 200 6450	SPRING COIL
M24	411 028 3308	SCR S-TPG PAN 2X8
M25	614 195 8880	LEVER, MISS REC A
M26	614 205 3690	LEVER ASSY
M27	614 205 6295	PIPE
M28	411 121 9900	SCR TPG PAN PCS 1.7X6
M29	614 205 3706	LEVER ASSY, A/B LEVER
M30	614 195 8828	SLIDE
M31	614 195 9054	LEVER, MANUAL REVERSE SW
M32	614 195 8903	LEVER, MODE CHANGE
M33	614 200 6580	SPRING WIRE
M34	614 195 9030	LEVER (R/F)
M35	614 195 9023	LEVER (A/B)
M36	412 031 2104	SPECIAL SCREW
M37	614 197 1643	TAPE GUIDE
M38	614 198 2724	PIPE, PROTECTOR
M39	411 038 8904	SCR PAN 2X2, TAPE GUIDE
M40	614 211 9341	BRACKET-M, PROTECTOR
M41	411 086 9205	WASHER IN TW 2
M42	411 002 4703	SCR PAN 2X16, PROTECTOR
M43	614 195 8910	LEVER, TRIGGER
M44	614 195 8941	LEVER
M45	614 200 6597	SPRING WIRE, PLAY SLIDE RESET
M46	614 205 3669	SLIDE ASSY
M47	614 200 6436	SPRING COIL, ROCK LEVER
M48	614 205 3676	LEVER ASSY
M49	614 200 6399	SPRING COIL
M50	614 195 8606	GEAR, D, G
M51	412 031 1503	SPECIAL WASHER
M52	614 195 8644	PULLEY
M53	412 012 6701	SPECIAL WASHER
M54	412 022 0607	SPECIAL WASHER, PULLEY FIX
M55	614 207 7665	LEVER, MODE CHANGE
M56	614 197 7737	PULLEY
M57	614 205 3638	GEAR ASSY
M58	614 209 0251	SPRING COIL, TUT
M59	614 195 9108	BRACKET SPRING
M60	614 200 6481	SPRING COIL
M61	614 195 8972	LEVER, SENSOR
M62	412 031 1701	SPECIAL WASHER
M63	614 195 8552	GEAR
M64	614 205 3645	PULLEY ASSY
M67	614 200 6498	SPRING COIL, TUT
M69	412 012 8606	SPECIAL WASHER, SENSOR THRUST
or	614 129 9341	LUG, LEAD FIX
M70	614 205 3577	CHASSIS ASSY
M71	614 195 9061	LEVER, CUE/REV
M72	614 195 8576	GEAR, FF RELAY
M73	614 205 3683	LEVER ASSY
M74	614 197 1629	SLIDE, DIRECTION DISPLAY

Ref. No.	Part No.	Description
M75	614 215 3222	SLIDE ASSY
M76	614 210 5900	HEAD, R/P
M77	411 028 2905	SCR S-TPG PAN 2X4
M78	614 195 8897	LEVER, MISS REC B
M79	614 195 9139	SPRING PLATE
M80	614 197 1599	BRACKET SWITCH
M81	411 020 1104	SCR PAN PCS 1.7X5, SW FIX
M82	614 195 7104	SWITCH, DIRECTION DISPLAY
M83	614 195 8811	SLIDE, B MISS REC
M84	614 200 6412	SPRING COIL
M85	614 195 8804	SLIDE, KICK LEVER
M86	614 205 3621	LEVER PINCH ROLLER ASSY
or	614 200 6566	SPRING WIRE, KICK LEVER RESET
M87	614 222 9842	LEVER PINCH ROLLER ASSY
M88	614 205 4703	COMMUTATE MOTOR ASSY
M89	411 124 9204	SCR PAN PCS 1.6X6, HEAD
M90	614 200 6634	SPRING WIRE
M91	614 200 6627	SPRING WIRE
M92	614 200 6405	SPRING COIL
M93	614 195 8613	GEAR, SELECTOR
M94	614 205 3591	FLYWHEEL ASSY
M95	614 223 8073	ASSY, CONNECTOR-S
M96	614 198 1963	SQUARE BELT, SUB
M97	614 205 3584	BRACKET HEAD ASSY
M98	614 208 4069	HEAD, PLAY
M99	614 212 9340	SPRING WIRE
M100	614 200 6504	SPRING WIRE, PINCH WIRE
M101	614 205 4192	SPRING WIRE, PINCH RESET
M102	614 195 9078	LEVER, TIMER LEVER
M103	614 222 9897	SPRING COIL, LEVER FIX
M104	614 200 6511	SPRING WIRE
M106	614 201 3175	PIPE, GEAR FIX
M107	614 200 6573	SPRING WIRE, CLICK
M108	411 002 1702	SCR FLT 2X8
M109	614 201 0624	SPRING COIL, AZIMUTH
M110	412 031 2005	SPECIAL SCREW, AZIMUTH
M111	614 224 4647	P.C BOARD
M112	614 207 7627	BRACKET-E, NOISE
M113	411 048 4507	SCR PAN+FLG 2X3, PCB FIX
M114	412 012 7104	SPECIAL WASHER
M115	614 197 2954	PIPE
M116	614 197 2978	LEVER, PAUSE LOCK
M117	614 201 3182	SPRING COIL
M118	614 195 8989	LEVER, CONT. PLAY
M119	614 195 8415	BRACKET MOTOR
M120	411 021 2704	SCR S-TPG BIN 2.6X6
M121	614 204 5299	LEVER, PAUSE
M122	614 205 3607	FLYWHEEL ASSY
M123	412 012 7609	SPECIAL WASHER, 3.1X5.4X0.25
M124	614 195 8620	GEAR
M125	614 198 1956	SQUARE BELT
or	614 152 1299	SPRING WIRE
M126	614 204 8771	LEVER, SENSOR
M127	614 209 3849	SWITCH, LEAF, AUTO CROM SWATTCH
M128	412 023 0903	SPECIAL SCREW, SW FIX
M130	614 126 6831	CUSHION
M131	412 026 1907	SPECIAL SCREW
M134	614 140 1522	LEVER, EJECT SLIDE
M135	614 140 1539	LEVER, E KICK
M136	614 196 0555	LEVER, PLAY BUTTON
M140	614 196 0524	LEVER, FF BUTTON
M142	614 196 0531	LEVER, STOP BUTTON
M143	614 211 3608	LEVER, PAUSE BUTTON
M144	614 205 5403	SLIDE, PUSH BUTTON ACTUATOR
M145	614 201 1744	SLIDE, SWITCH ACTUATOR
M146	614 211 3615	LEVER, PAUSE
M147	614 129 0669	BOSS, PAUSE STOPPER
M148	614 151 7186	SPRING COIL, PAUSE LEVER
M149	614 152 1244	SPRING WIRE, P CONTROL
M150	614 152 1251	SPRING WIRE
M151	614 152 1268	SPRING WIRE
M152	614 152 1275	SPRING WIRE, E ACTUATOR
M153	614 152 1282	SPRING WIRE, P.S. LEVER

PARTS LIST

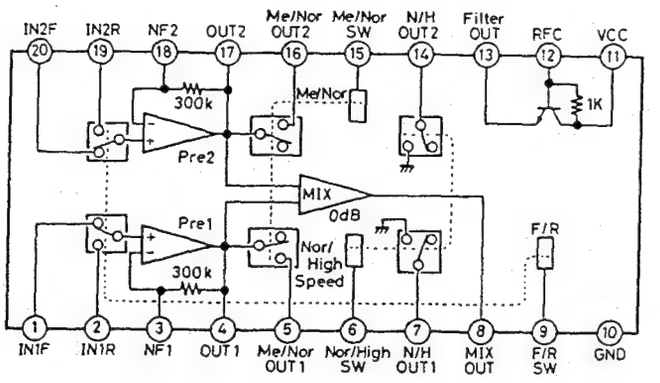
Ref. No.	Part No.	Description
M154	614 151 8312	SPRING PLATE, GEAR PLATE
M155	614 196 0517	LEVER, REW BUTTON
M156	614 129 0676	BOSS, PR STOPPER
M158	614 024 1693	SWITCH
M159	412 026 2201	SPECIAL SCREW, M2X5
M160	412 026 2300	SPECIAL SCREW, M2X4.5
M161	614 134 9053	GEAR, CAM
M162	614 140 1614	LEVER, SENSING
M164	412 013 5000	SPECIAL WASHER, 1.2X3.8X0.3
M165	614 204 5701	REEL ASSY, TAKE UP
M166	614 204 5732	PULLEY ASSY, RF CLUTCH
M167	614 067 2770	CHASSIS ASSY
M168	614 210 3302	LEVER PINCH ROLLER ASSY
M171	614 067 3258	SUB CHASSIS ASSY
M172	614 070 0916	LEVER ASSY, GEAR PLATE
M176	614 204 8740	SQUARE BELT, RF
M177	614 204 8542	SWITCH, LEAF
M179	614 204 8672	FLYWHEEL ASSY
M180	412 026 2102	SPECIAL SCREW, M2X3
M184	412 026 2508	SPECIAL WACHER, 2X3.5X0.3
M193	614 201 3168	PIPE
M194	614 195 8590	GEAR
M197	614 133 4127	SQUARE BELT, MAIN
M198	412 031 6607	SPECIAL SCREW, M2X3
M199	614 151 7162	SPRING COIL, AZIMUTH
M201	614 151 8299	SPRING PLATE, PACK SPRING
M202	614 146 5111	BRACKET TAPE GUIDE, HEAD BASE
M203	412 026 1501	SPECIAL SCREW, M2X6
or	614 134 9046	GEAR, FF
M204	412 026 1808	SPECIAL WASHER, 1.45X3.8X0.5
M205	614 211 6944	SLIDE, HEAD PANEL
M206	614 210 3432	SPRING WIRE, PANEL P
M210	412 026 1709	SPECIAL SCREW, AZIMUTH, M2X7
M211	614 151 4703	SPRING COIL, PLATE BUTTON LEVER
M212	614 151 7179	SPRING COIL, BACK TENSION
M218	614 204 5695	REEL ASSY, SUPPLY
M251	614 200 6467	SPRING COIL
M252	614 195 9085	LEVER, CONT. PLAY
M253	614 200 6245	PIPE
M281	412 005 8101	SPECIAL SCREW, CONT LEVER
M287	614 204 6432	PIPE, GEAR FIX
M299	614 200 6610	SPRING WIRE
M300	614 195 8958	LEVER, END READY
M301	614 200 6429	SPRING COIL
M302	614 195 8965	LEVER, END CANCEL
M303	614 200 6368	SPRING COIL
M304	614 200 6443	SPRING COIL
M305	614 200 6382	SPRING COIL, KICK LEVER RESET
M306	614 200 6375	SPRING COIL
M307	614 195 8583	GEAR
M308	614 213 5532	SWITCH, LEAF, MAIN SW
M309	614 204 5282	BRACKET, MOTOR LEVER
M310	614 200 6641	SPRING WIRE, FIX
M312	614 200 6603	SPRING WIRE
M313	614 195 8927	LEVER, END DETECT
M314	412 012 7005	SPECIAL WASHER
M315	412 014 3005	SPECIAL WASHER
M316	412 029 8200	SPECIAL WASHER
M317	412 034 4709	SPECIAL WASHER
M318	614 207 6903	SPRING, TENS, R HEAD BRACKET
M319	614 222 7954	SWITCH, LEAF, PAUSE
M320	614 207 6897	PIPE
M321	411 102 3002	SCR TPG PAN PCS 1.7X4
M322	411 002 4901	SCR PAN 2X4

IC702 LC7818 (2-Pole 4-Position Analog Function Switch)

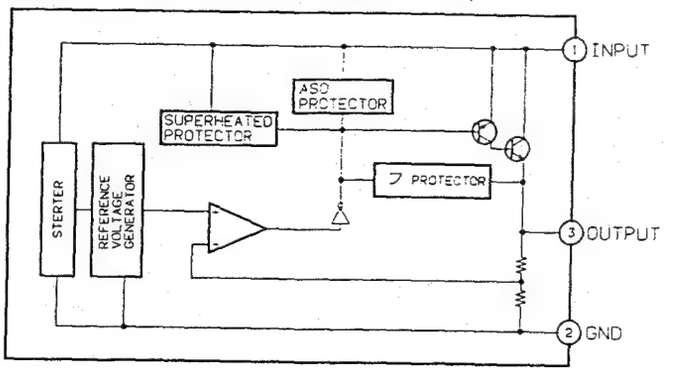


IC BLOCK DIAGRAM

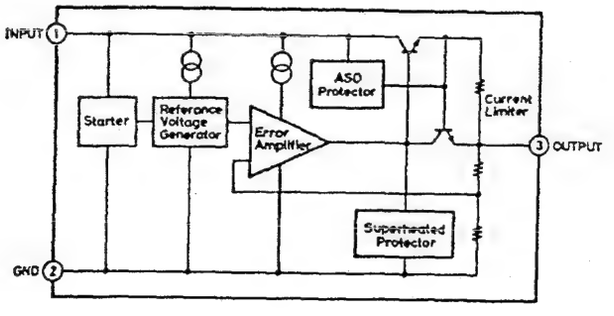
IC501 LA3246 (Pre-Amp Electrical Switch0



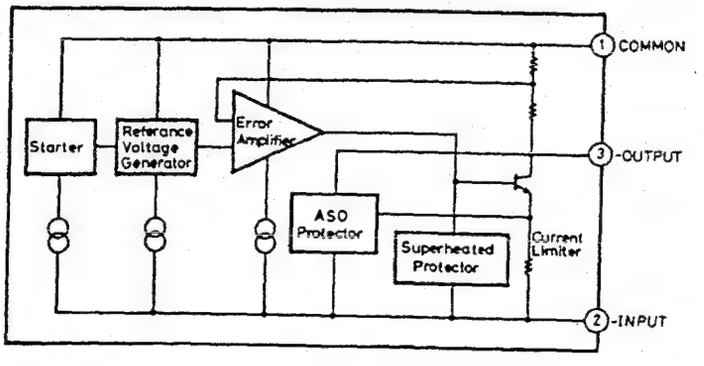
IC1601 M5278D05
(3 TERMINAL VOLTAGE REGULATOR)



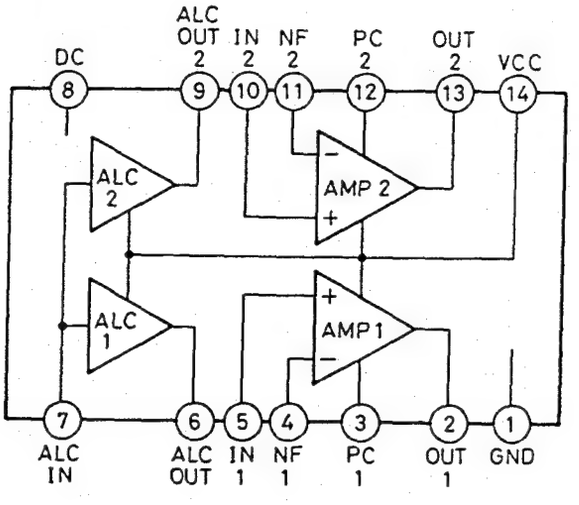
IC903, 904 AN7812F
(12V 3-Terminal Constant Voltage Regulated Power supply)



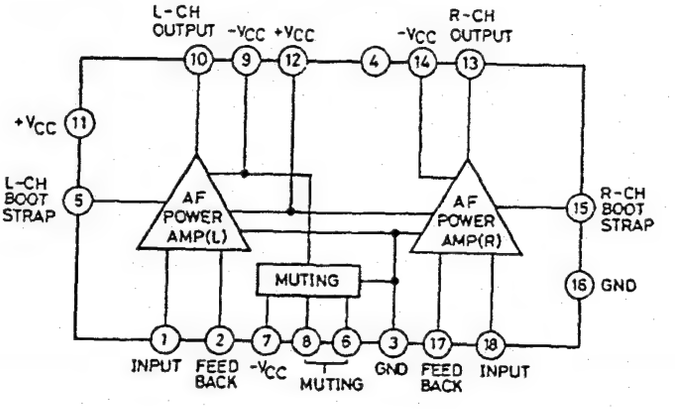
IC1602 L78M05, IC904 μPC7912HF
(3-Terminal Constant Voltage Regulated Power supply)



IC521 LA3220 (Dual Pre-Amplifier)

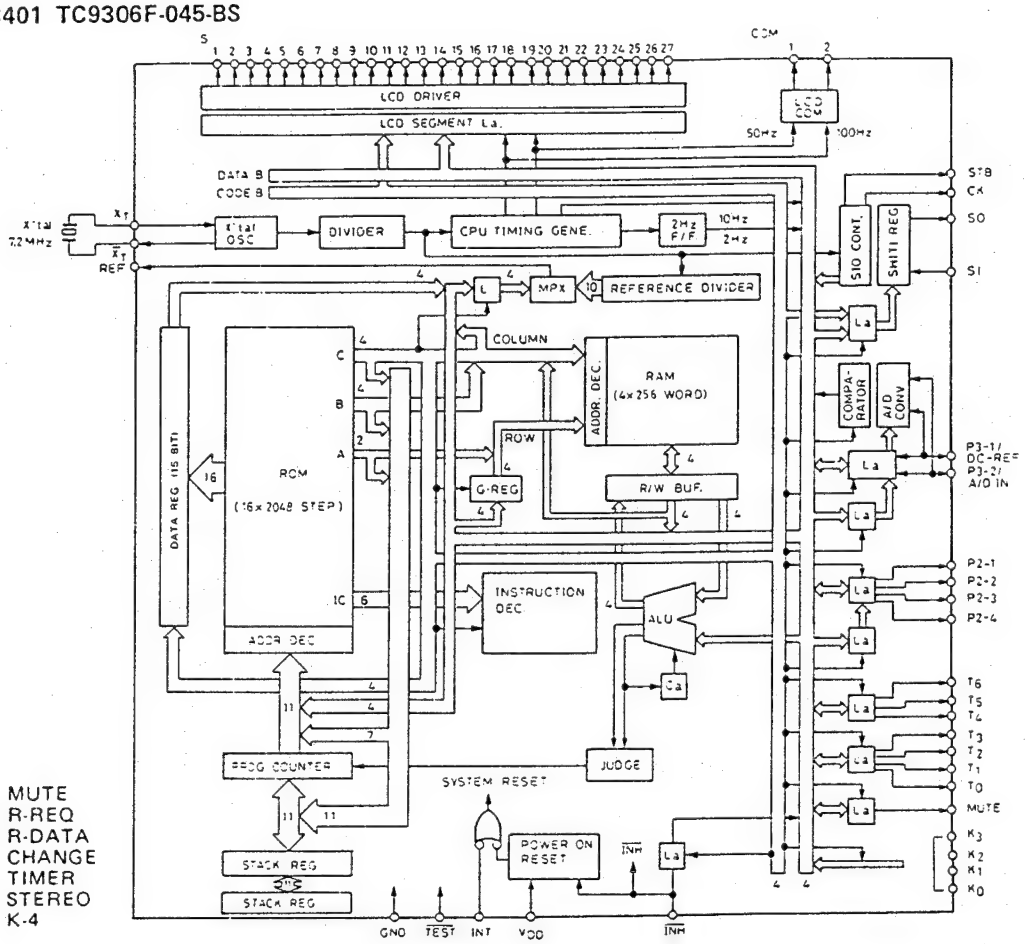


IC710 STK4162 II (2 channel AF Power Amp.)

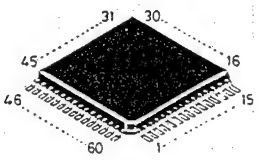


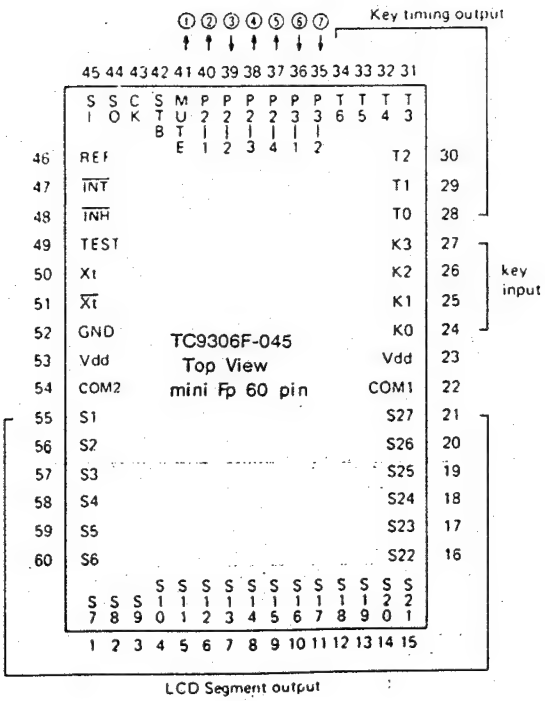
IC BLOCK DIAGRAM

IC401 TC9306F-045-BS



1. MUTE
2. R-REQ
3. R-DATA
4. CHANGE
5. TIMER
6. STEREO
7. K-4





SYSTEM SUMMARY (TC9306F-045)

Combined with PLL LIS TC 9172AP, high efficiency digital tuning system with FM/MW 2-band can be made.

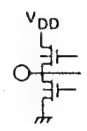
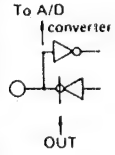
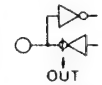
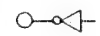
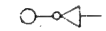
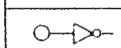
BAND

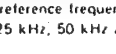
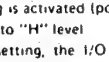
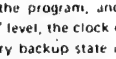
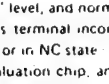
BAND	CODE A	CODE B	FREQUENCY (Hz)	STEP (Hz)	Fref (Hz)	IF (Hz)
FM	0	0	87.9 ~ 107.9 M	200K	25K	+10.7M
	1	0	87.50 ~ 108.00 M	50K		
	0	1	76.0 ~ 90.0 M	100K		10.7M
	1	1	87.4 ~ 108.1 M	50K		+10.7M
MW	0	0	530 ~ 1700 K	10K	10K	+450K
	1	0	531 ~ 1602 K	9K	9K	+459K
	0	1	522 ~ 1611 K			+450K
	1	1	522 ~ 1629 K			
LW	1		144 ~ 290 K	AUTO MANU 9K/1K	1K	+459K
SW1	1	–	13.2 ~ 7.3 M	5K	5K	+450K
SW2	–	1	29.5 ~ 21.75 M			

TC9306F-045

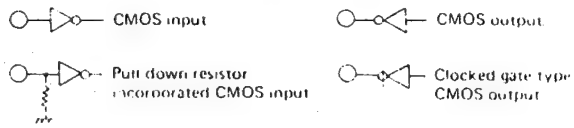
PORT	No.	NAME	FUNCTION	ACTIVE	FIRST SETTING
MUTE	41	MUTE	MUTE OUTPUT	H	H
P2-1	40	REM-DATA	REMOTE INPUT	H	–
P2-2	39	VR UP	VR UP OUTPUT	H	L
P2-3	38	VR DOWN	VR DOWN OUTPUT	H	L
P2-4	37	AUTO/MANUAL	AUTO OUTPUT	H	L
P3-1	36	TUNED/SD	TUNED & SD INPUT	L	–
P3-2	35	STEREO	STEREO INPUT	L	–

Explanation of terminal functions

Pin No.	Symbol	Terminal name	Description of function and operation	Remarks
22 54	COM1 COM2	LCD common output	Terminal to output common signal output to LCD It is possible to indicate max. 54 segments by using the matrix S1-S27. At this terminal, three levels of V_{DD}, 1/2 V_{DD} and GND are outputted with intervals of 5 ms at a frequency of 50 Hz. Note: During system resetting or when CKSTP command is executed, output is automatically set to "L" level.	
55~60 1~21	S1~S6 S7~S27	LCD segment output	Terminal to output segment signal output to LCD. It is possible to indicate max. 54 segments by using the matrix COM1 and COM2. Data is outputted to these terminals by SEG command (COM1 system) and MARK command (COM2 system). For segment decoding, the decode pattern is made in the ROM area, and it is executed by using the DAL command. Note: During system resetting or when CKSTP command is executed, output is automatically set to "L" level.	
24~27	K0~K3	Key input port	4-bit input port for key matrix input. When KEY command which assigns this port at the operand part is executed, data of these terminals are read in to RAM All the terminals incorporate pull down resistor The output ports of T0-T6 are normally used for key return timing signal output.	
28~34	T0~T6	Key timing output port	4-bit (T0-T3) or 3-bit (T4-T6) output port. These ports are normally used for key return timing signal output of key matrix.	
35 36	P3 2 /A/D IN P3-1 /DC. REF	I/O port 3 A-D /analog voltage input /reference voltage input	2-bit I/O port At this port it is possible to assign input and output per bit. For this assignment, the content of internal port called PORT-3 I/O CONTROL is used. This terminal is also used for analog input of incorporated 4-bit A/D converter. The switching to A/D converter input is controlled according to the content of PORT-3 I/O CONTROL port. The incorporated A/D converter adopts the programmed successive comparison system in which P3-1 is for reference voltage input, and P3 2 is for analog comparison voltage input.	
37~40	P2-4~ P2-1	I/O port 2	4-bit I/O port. At this port it is possible to assign input and output per bit. For this assignment, the content of internal port called PORT 2 I/O CONTROL port is used.	
41	MUTE	Muting signal output port	1-bit output port. This port is normally used for muting control signal output. Note: When the $\overline{INH}$ input is changed from "H" to "L" or "L" to "H", the output is automatically set to "H" level.	
42 43 44 45	STB CK SO SI	Strobo pulse output Serial clock output Serial data output Serial data input	Serial interface By executing the SIO command, the externally mounted PLL LSI or an optional IC of peripheral part can be controlled. The serial transferring mode, $\overline{NCD}$ or NCD, can be selected as programmed.	 

46	REF	Reference Frequency signal output	Output terminal of reference frequency signal supplied to PLL LSI. It is possible to select one of eight kinds of reference frequency signals (1 kHz, 5 kHz, 9 kHz, 10 kHz, 12.5 kHz, 25 kHz, 50 kHz and 100 kHz) by program. Note. When the $\overline{INH}$ input is at "L" level, the output is automatically set to "L" level.	
47	$\overline{INT}$	Initialize input	System reset signal input terminal of device While the $\overline{INT}$ is at "L" level, resetting is activated. When at "H" level, the program is started from 0 address. Normally, when voltage of 0V-4.5V is applied to V_{DD}, system resetting is activated (power on reset) Therefore, this terminal is used, being set to "H" level. Note: After completion of system resetting, the I/O port is set in input mode. However, since the output state of output port is undefined, it is necessary to initialize the port by using the program as needed.	
48	$\overline{INH}$	Inhibit input	Select signal input port of radio mode It is judged that radio is set in ON mode when input is at "H" level, and radio is set in OFF mode when input is at "L" level. When this terminal is set in "L" level, REF output is automatically fixed at "L" level. When the CKSTP command is used in the program, and this CKSTP command is executed while $\overline{INH}$ is at "L" level, the clock generator and CPU stop the operations, and the memory backup state is set by using low current (1 A or below). In this case, all output terminals (indication output, output port, etc.) are set automatically to "L" level. Note. The CKSTP command is effective when $\overline{INH}$ is at "L" level. If it is executed when $\overline{INH}$ is at "H" level, the same operation as that of NOOP command is executed.	
49	TEST	Test mode control input	Test mode control input terminal The test mode is set when input is at "H" level, and normal operation is executed in "L" level or NC state. This terminal incorporates a pull-down resistor. It is normally at "L" level or in NC state. In test mode, the device acts as an evaluation chip, and can evaluate programs on EP ROM base combining with the externally mounted simulation board.	
50 51	XT $\overline{XT}$	Quatz oscillator	Connecting terminal of quatz oscillator 7.2 MHz quatz is connected When the CKSTP command is executed, oscillation is automatically stopped.	—
52	GND	Ground terminal	Ground terminal of device	—
23 53	V_{DD}	Power-on terminal	Power on terminal of device In normal operation, voltage of 5V ±10% is applied. In backup state (when CKSTP command is executed), a voltage can be reduced to 2V. When voltage of 0V-4.5V is applied to this terminal, system resetting is activated in the device, the program starts from 0 address. (Power on reset) Note Power on resetting is executed when $\overline{INH}$ is in "L" level. Note Since the content of each port (output port, internal port, etc.), when power is connected, is undefined, it is necessary to initialize the content by using to the program as needed.	—

(Supplement)

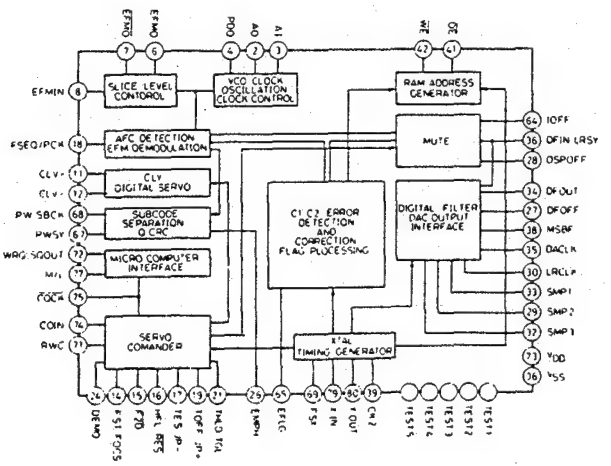


IC BLOCK DIAGRAM

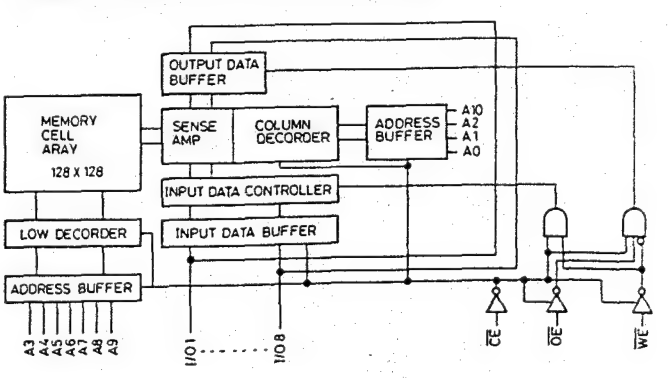
Pin Function of IC1401 (LC7860N)

Pin No	Pin Name	I/O		Functions
1	TEST1	I	–	Test pin. Normally not connected.
2	AO	O	–	VCO is generated by connecting resonance circuit between AI and AO. (8.6436MHz) is phase output with EFM signal, and is set to increase frequency when +".
3	AI	I	–	
4	PDO	O	–	
5	Vss	–	–	GND
6	EFMO	O	–	1 to 2Vpp HF signal is input to EFMIN. Output from EFMO and BFMO passes through amplitude limiter and reverse phase EFM signal is obtained from both. This performs slice level control.
7	$\overline{EFMO}$	O	–	
8	EFMIN	I	–	
9	TEST2	I	–	Test pin. Normally not connected.
10	VDD	-	–	+5V
11	CLV+	O	–	Disk motor control output
12	CLV–	O	–	
13	FOCS	O	–	Focus servo is off when FOCS is HIGH. The lens is lowered by FST and then FST is HIGH, the lens is gradually pulled up. FOCS is reset when FZD is generated. For focus-in.
14	FST	O	–	
15	FZD	I	–	
16	HFL	I	*1	*1 Kick pulses, JP+ and JP–, are generated according to track jump command. A jump of the prescribed number of tracks is (1, 4, 16 64). *2 When 4.3218MHz PCK monitor terminal/DEMO is HIGH both SYNC detected from EFM signal and SYNC of counter are the same at HIGH.
17	TES	I	*1	
18	FSEQ/PCK	O	*2	
19	TOFF	O	*1	
20	TGL	O	*1	
21	THLD	O	*1	
22	JP+	O	*1	
23	JP-	O	*1	
24	DEMO	I	–	Set and sount output adjustment pin function.
25	TEST3	I	–	Test pin. Normally not connected.
26	EMPH	O	–	De-emphasis is necessary when HIGH.
27	DFOFF	I	–	ON/OFF switch for digital filter. No filtering when HIGH.
28	DSPOFF	I	–	Test pin Normally not connected.
29	SMP2	O	*3	*3 Signal output to DAC and signal for L/R switching and sample hold. *4 +5V *5 Signal output for CDROM *6 CDROM sync signal
30	LRCLK	O	*3	
31	VDD	–	*4	
32	SMP3	O	*3	
33	SMP1	O	*3	
34	DFOUT	O	*3	
35	DACLK	O	*3	
36	DFIN	I/O	*5	
37	LRSY	O	*6	
38	MSBF	I	*3	
39	CK2	O	–	2.1609MHz
40	AD10	O	*7	*7 RAM address output *8 Output state when WE = L and input state when WE = H. OE is for input/outptu control.
41	AD10	O	*8	
42	OE	O	*8	
43	AD9	O	*7	

Pin No.	Pin Name	I/O		Functions
44	AD8	O	*7	*7 RAM address output *8 Output state when WE = L and input state when WE = H. OE is for input/output control.
45	AD7	O	*7	
46	AD6	O	*7	
47	AD5	O	*7	
48	AD4	O	*7	
49	AD3	O	*7	
50	AD2	O	*7	
51	AD1	O	*7	
52	AD0	O	*7	
53	DB7	I/O	*9	*9 DB7 to DB0: connected to RAM data pins. *10 GND
54	DB6	I/O	*9	
55	DB5	I/O	*9	
56	Vss	–	*10	
57	DB4	I/O	*9	
58	DB3	I/O	*9	
59	DB2	I/O	*9	
60	DB1	I/O	*9	
61	DB0	I/O	*9	
62	TEST4	I	–	Test pin. Normally not connected.
63	TEST5	I	–	
64	IOFF	I	–	For CD ROM. HIGH time interpolation and holding of previous value not performed.
65	EFLG	O	–	C1/C2 1-level and 2-level error correction
66	PW	O	–	PWSY is SYNC combining main and sub and change from HIGH to LOW is taken externally. The P, Q, R, S, T, U, V, and W subcodes are read by sending 8 clock pulses to SBCK.
67	PWSY	O	–	
68	SBCK	I	–	
69	FSX	O	–	7.35kHz sync signal output
70	WRQ	O	*11	*11 WRQ goes HIGH when data of subcode Q passes CRC check. This is taken externally and the data from SQOUT is read by sending CQCK. When data is required with LSB first, M/L is driven LOW. After the microprocessor sets RWC to HIGH, the command is given by output synchronized with the CQCK command data. *12 Goes LOW once when power is turned on.
71	RWC	I	*11	
72	SQOUT	O	*11	
73	VDD	–	*11	
74	COIN	I	*11	
75	CQCK	I	*11	
76	RES	I	*12	
77	M/L	I	*11	
78	Vss	–	–	GND
79	XIN	I	–	Pin for connection to 8.6436MHz crystal oscillator
80	XOUT	O	–	

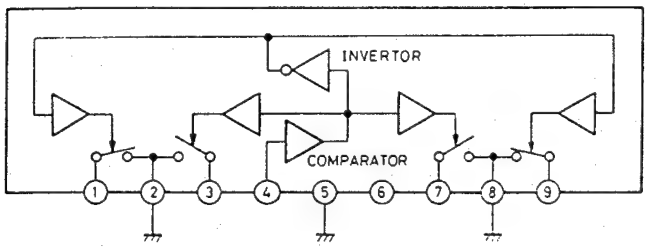


IC1402 LC3517A 3517 (STATIC-RAM)

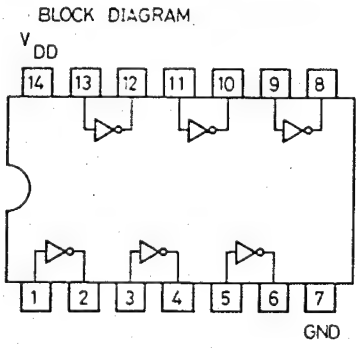


IC BLOCK DIAGRAM

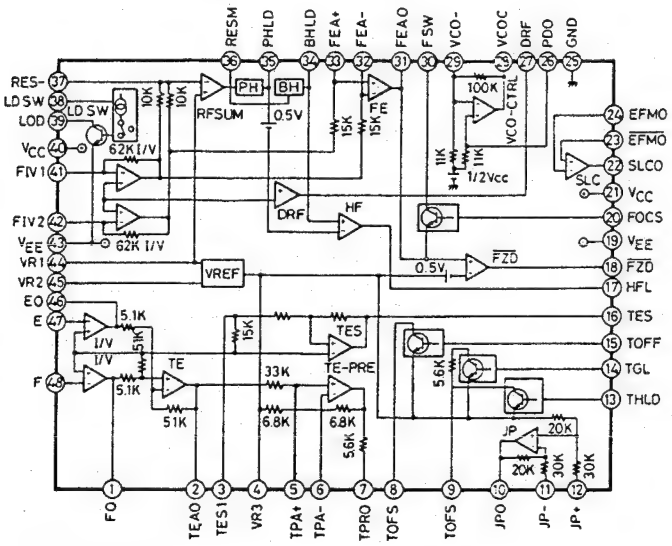
IC502 μPC1330HA (Cassette DEck 2-channel Head Select)



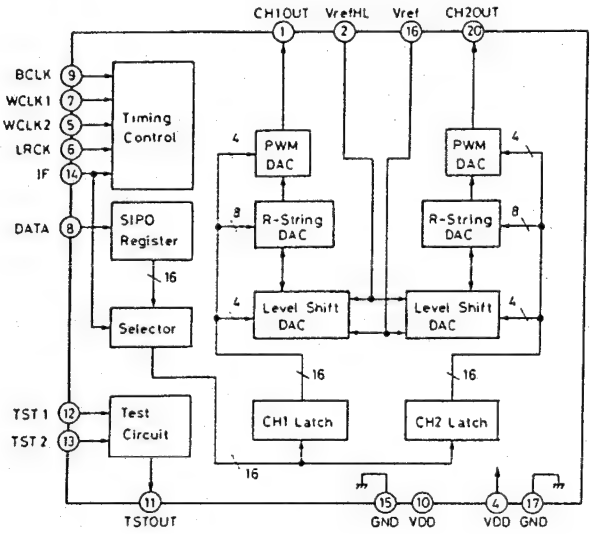
IC001 LC4069UB(Hex Inverter)



IC1101 LA9200NM (RF Amp. Servo)



IC1501 LC7881 (16 Bit D/A Converter)



Pins Functions of IC1501 (LC7881)

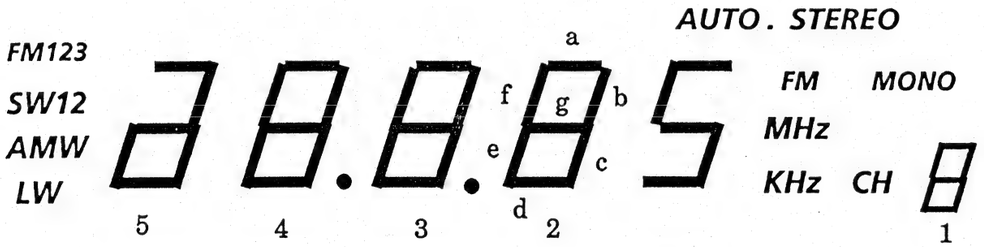
Pin No.	Pin name (Symbol)	Description
1	CH1OUT	Output Terminal of CH-1.
2	VrefH	Input Terminal of Reference Voltage "H".
3	NC	No Connection
4	VDD	+5V Power Supply Terminal.
5	WCLK2	Input Terminal of Word-Clock 2. When IF is in "L", internal signal for latching CH-1 data of digital signal is made by using trailing edge WCLK2. When IF is in "H", it needs WCLK2 to "L".
6	LRCK	Input Terminal of LR Clock. Indicates CH-1 and CH-2 of input digital audio data : indicate CH-1 when LRCK is in "H". indicate CH-2 when LRCK is in "L".
7	WCLK1	Input Terminal of Word-Clock 1. When IF is in "L", internal signal for latching CH-2 data of digital signal is made by using trailing edge of WCLK1. When IF is in "H", internal signal for latching CH-1 and CH-2 data of digital signal is made by trailing edge of WCLK1.
8	DATA	Input Terminal of Digital Audio Data. When IF is in "L", digital audio data is input in bit serial from LSB. When IF is in "H", digital audio data is input in bit serial from MSB.

Pin No.	Pin name (Symbol)	Description
9	BCLK	Bit-Clock Terminal. This clock is for reading digital audio data into LSI in bit serial and is for PWMDAC.
10	VDD	+5V Power Supply Terminal.
11	TSTOUT	Output Terminal for Testing. Ordinarily, leave this terminal open.
12	TST1	Input Terminal for Testing. Ordinarily, ground these terminals.
13	TST2	Input Terminal for Testing. Ordinarily, ground these terminals.
14	IF	Interface Select Terminal. When IF is in "L", digital audio data is input from LSB side. When IF is in "H", digital audio data is input from MSB side.
15	GND	Ground Terminal
16	VrefL	Input Terminal of Reference Voltage "L".
17	GND	Ground Treminal
18	NC	No Connection
19	NC	No connection
20	CH2OUT	Output Terminal of CH-2.

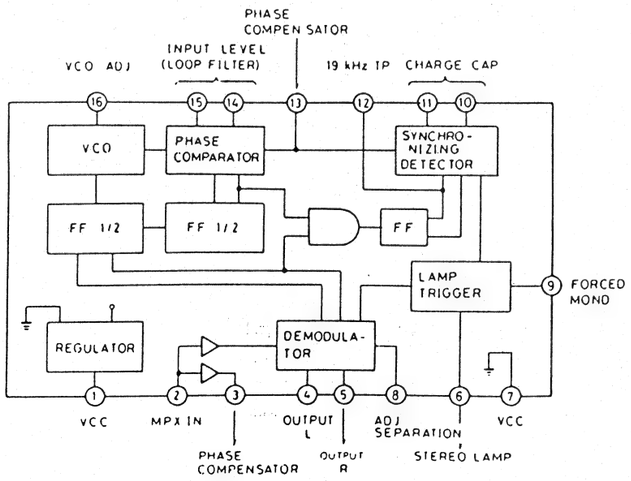
LCD DISPLAY PIN DESCRIPTION

No	COM1	COM2	COM0
1	-	-	COM0
2	COM1	-	-
3	FM	LW	-
4	W	A	M
5	SW	-	-
6	1(SW)	-	-
7	-	2(SW)	-
8	1(FM)	2(FM)	-
9	3(FM)	AUTO	-
10	5b	5c	-
11	-	5adeg	-
12	4f	4b	-
13	4e	4g	-
14	4d	4c	-
15	.	4a	-

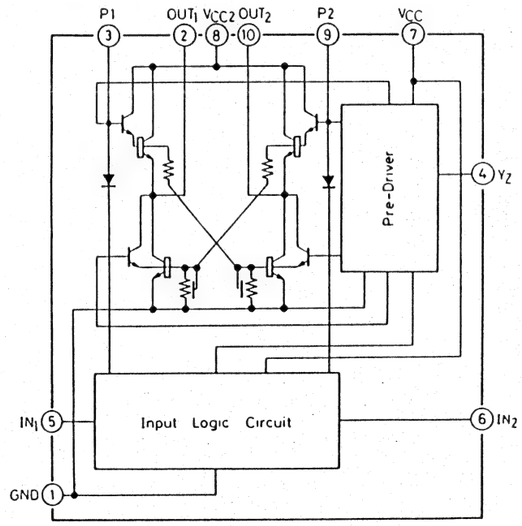
No	COM1	COM2	COM0
16	3f	3b	-
17	3e	3g	-
18	3d	3c	-
19	-	3a	-
20	2f	2b	-
21	2e	2g	-
22	2d	2c	-
23	5	2a	-
24	KHZ	MHz	-
25	FM MONO	-	-
26	-	.STEREO	-
27	1f	1b	-
28	1e	1g	-
29	1d	1c	-
30	ch	1a	-
31	-	COM2	-



IC301 LA3361 (PLL FM MPX. Stereo Demodulator)



IC903 LB1641 (Motor Driver)



Input		Output		Action
IN_1	IN_2	OUT_1	OUT_2	
0	0	0	0	Brake
1	0	1	0	Normal(Reverse)Rotary
0	1	0	1	Reverse(Normal)Rotary
1	1	0	0	Brake

VOLTAGES OF IC & TRANSISTORS

IC101 (LA9200NM) (Unit: Volt)

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stop voltages	0		0.3	0	0	0	0	0	0	0	0	0	0	4.8	4.3	4.1
Play voltages	-0.3	Fluc	0.2	0											0	3.8
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Stop voltages	4.1	4.0	-5.0	0	4.9	3.6	1.5	1.5	0	2.4	0	2.4	2.4	0	0	0.6
Play voltages	0	4.0	-5.0	0	4.9	2.5	2.6	2.4	0	2.4	4.16	2.5	2.4	Fluc	-0.3	0.3
Measuring Pin No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Stop voltages	0.6	0.2	-0.2	-0.1	0	4.2	4.9	5.0	0	0	-5.0	0	0	0	0	0
Play voltages	0.3	0.8	2.9	1.7		0.3	-5.0	5.0			-5.0					

IC 1301 CXP5046H-225S

PIN No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
STOP VOLTAGE	4.9	4.9	4.9	4.9	4.9	-	-	-	-	2	2	2	4.9	4.9	4.9	4.9	4.9	0.3
PLAY VOLTAGE	4.9	4.9	4.9	4.9	0.3	-	-	-	-	2	2	2	4.9	4.9	4.9	4.9	4.9	0.3

PIN No.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
STOP VOLTAGE	0.3	0.3	0.3	0.5	0.3	0.3	0.3	-	-	-	-	3.0	-	0	4.5	0.2	0.2	
PLAY VOLTAGE	0.3	0.3	0.3	0.5	0.3	0.3	0.3	-	-	-	-	3.0	-	0	0.1	4.8	4.8	
	*3	*3	*3	*3	*3	*3	*3									*1	*2	

PIN No.	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
STOP VOLTAGE		4.9	4.9	0	-	4.6	0	-	4.7	0	-	4.9	4.9	-	-	-	-	-
PLAY VOLTAGE		4.9	4.9	0	-	Fluc	0	-	Fluc	4	-	0	0	-	-	-	-	-
												*1/2						

PIN No.	55	56	57	58	59	60	61	62	63	64
STOP VOLTAGE	-	0.1	0	-	0	0	0	0	0	4.9
PLAY VOLTAGE	-	3.2	3.2	-	3	0	0	0	0	4.9

IC401 (LC7860N)

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stop voltages		2.5	2.4	2.4	0	1.4	1.2	2.5	0	4.9				3.0	4.2	4.2
Play voltages		2.5	2.4	2.4	0	2.4	2.4	2.5	0	4.9	0.8	0	0	3.0	4.2	0
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Stop voltages		2.5	4.86	0	0	0	0	0	0	0	0	0	1.0	2.5	4.9	2.0
Play voltages	4.17	2.5	4.86										1.0	2.5	4.9	2.0
Measuring Pin No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Stop voltages	1.0	2.0	2.4		2.4	0	2.4	2.4	3.57	4.5	2.4	2.4	2.4	2.4	2.4	2.4
Play voltages	1.0	2.3	2.4		2.4	0	2.4	2.4	3.57	4.5	2.4	2.4	2.4	2.4	2.4	2.4
Measuring Pin No.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Stop voltages	1.6	1.6	1.6	1.6	1.4	1.4	1.4	0	3.6	3.6	3.6	1.6	3.6			
Play voltages	1.6	1.6	1.6	1.6	2.6	2.6	2.6	0	2.4	2.4	2.4	2.4	2.4			
Measuring Pin No.	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Stop voltages	2.3		0.3		2.4	0			4.9		4.9	5.0	0	0	2.3	2.3
Play voltages	Fluc		0.3	Fluc	2.4	0.2	Fluc	Fluc	4.9	Fluc	4.9	5.0	0		2.3	2.3

※ Fluc: Fluctuation

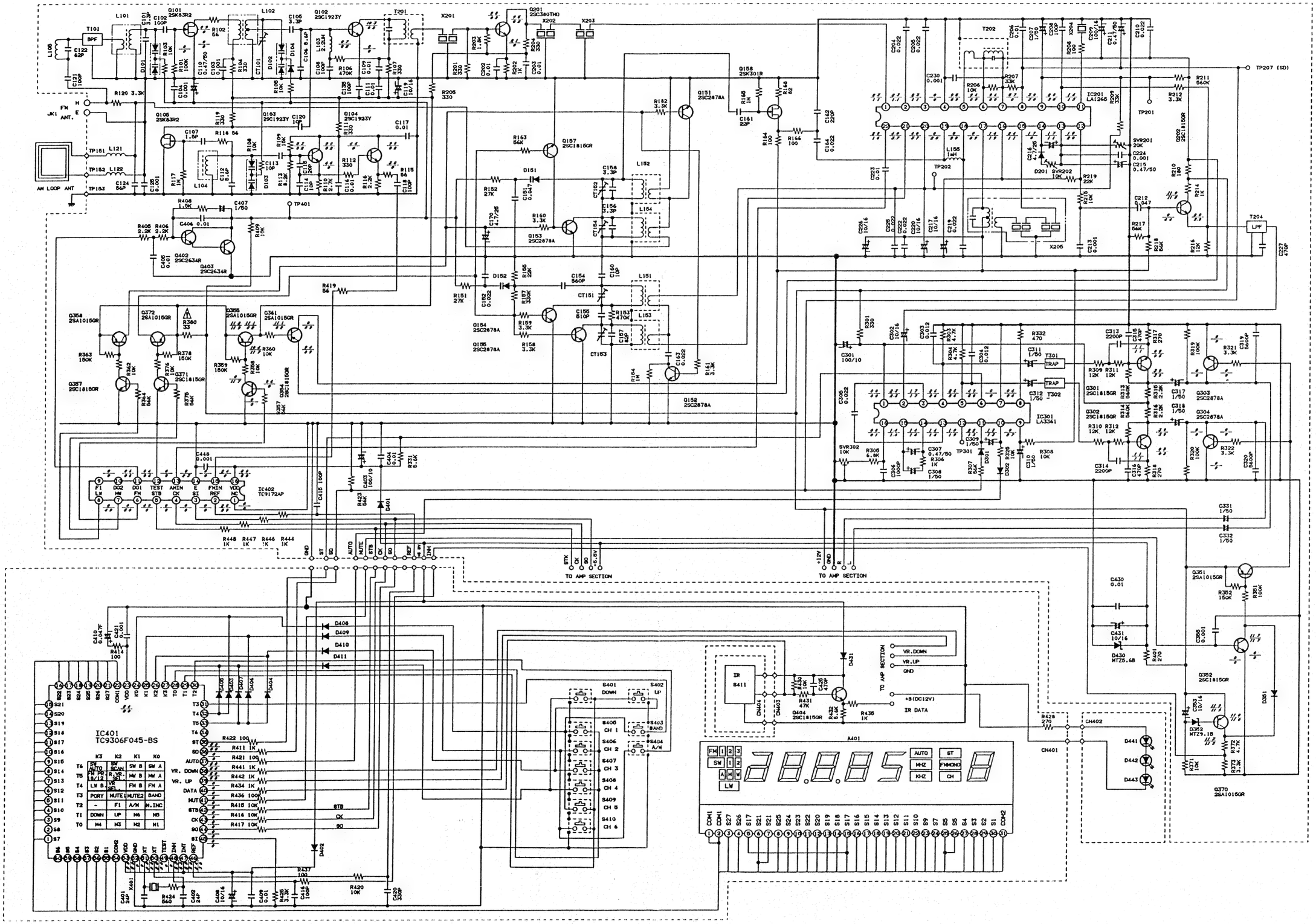
IC402 (LC3517AS)

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stop voltages	2.4	2.4	2.4	2.4	1.6	1.6	1.6	1.6	2.5	1.4	1.4	0	3.6	3.6	3.6	1.7
Play voltages										2.2	2.5		2.6	2.6	2.6	2.4
Measuring Pin No.	17	18	19	20	21	22	23	24								
Stop voltages	3.6	0	2.4	3.5	4.5	2.5	2.5	4.9								
Play voltages	2.3		2.4	3.5												

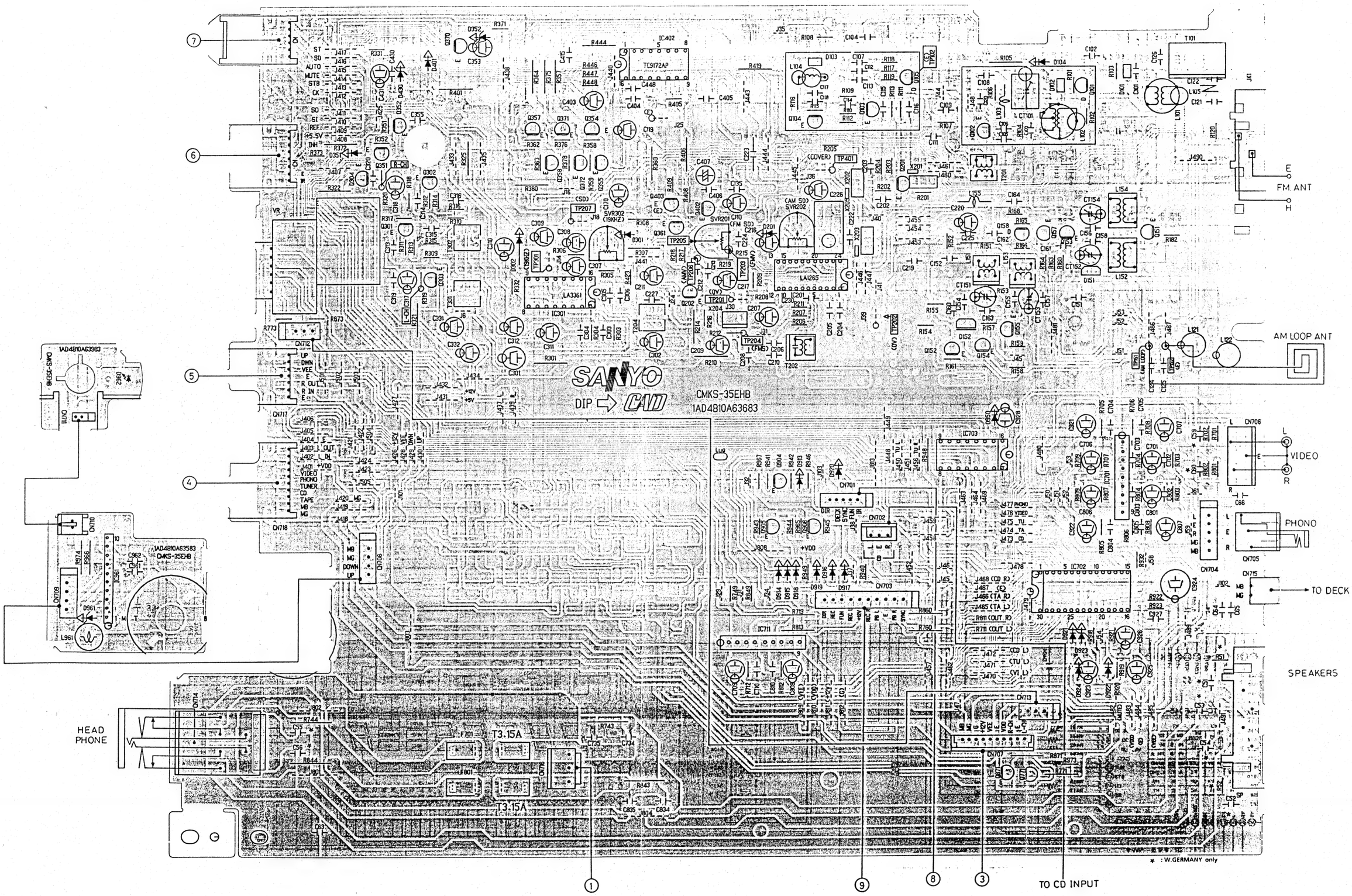
PIN No.	Q1101			Q1201			Q1202			Q1203			Q1206			Q1501			Q1502		
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP VOLTAGE	4.98	0.5	4.98	0	0.3	-0.6	0	0	0.6	0	2.2	0	0	0	0.6	4.0	4.9	4.7	1.3	5	
PLAY VOLTAGE		4.86	-4.98				0	0	0	0	0	0							1.3	5	2

PIN No.	Q1503			Q1504			Q1505			Q1602			Q1701			Q1702			Q7503		
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP VOLTAGE	1.3	5		0	Fluc	0	0	Fluc	0	0	5	0									
PLAY VOLTAGE	1.3	5	2	0	0	0.6	0	0	0.6				4.9	2.8	1.8	4.9	2.8	1.8	4.9	2.8	1.8

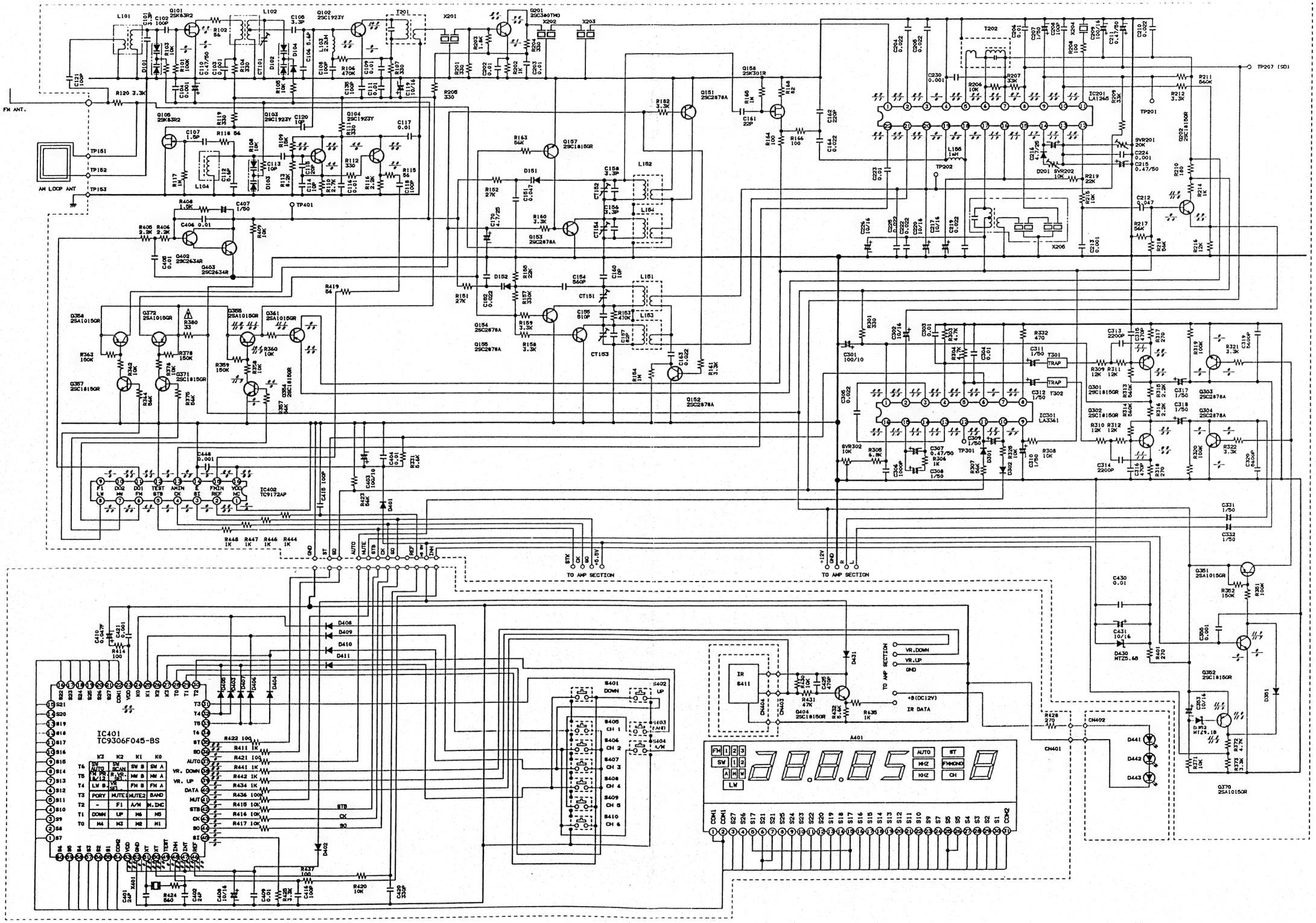
SCHEMATIC DIAGRAM (TUNER W. GERMANY)



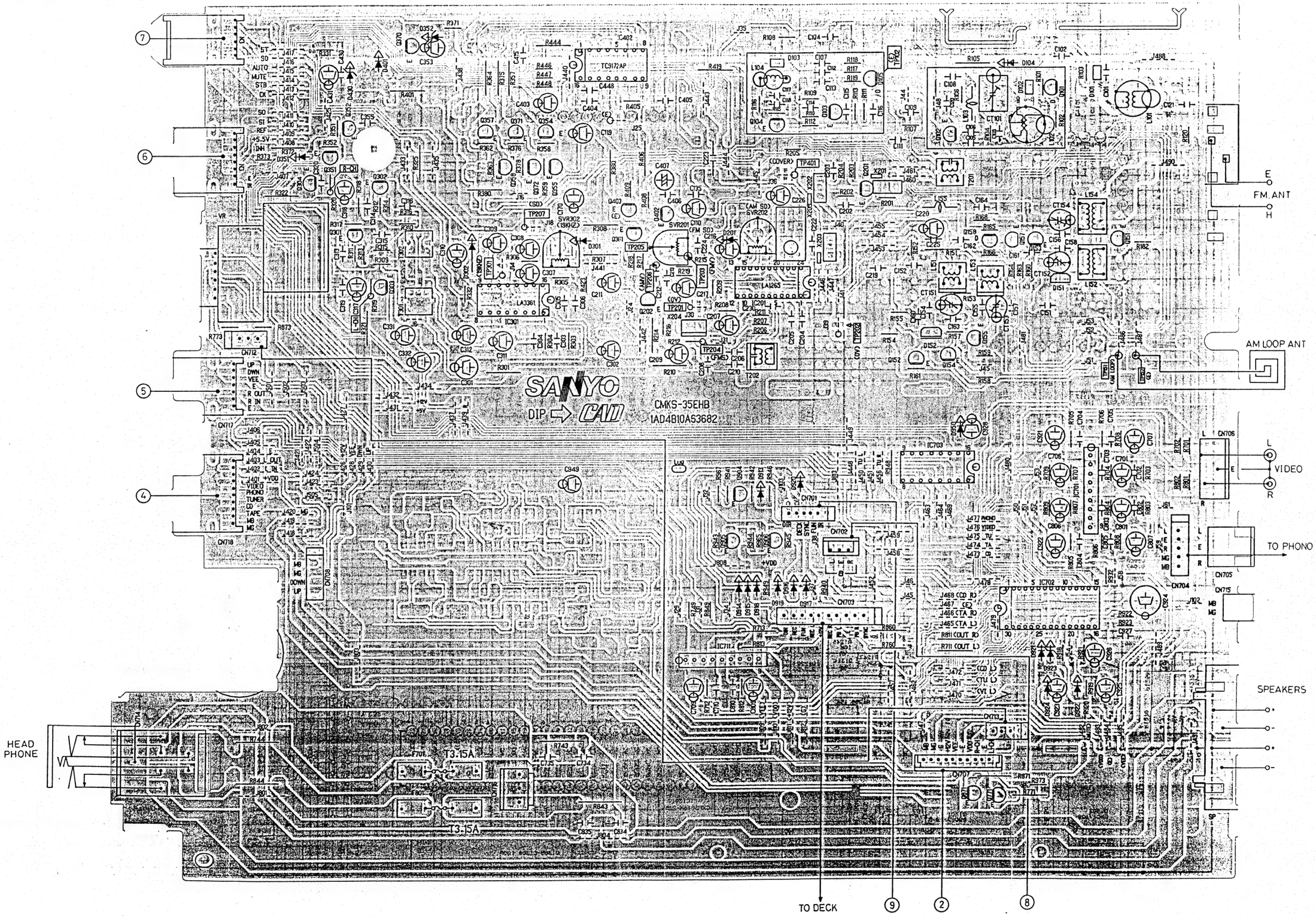
WIRING DIAGRAM (TUNER FRONT, W. GERMANY)



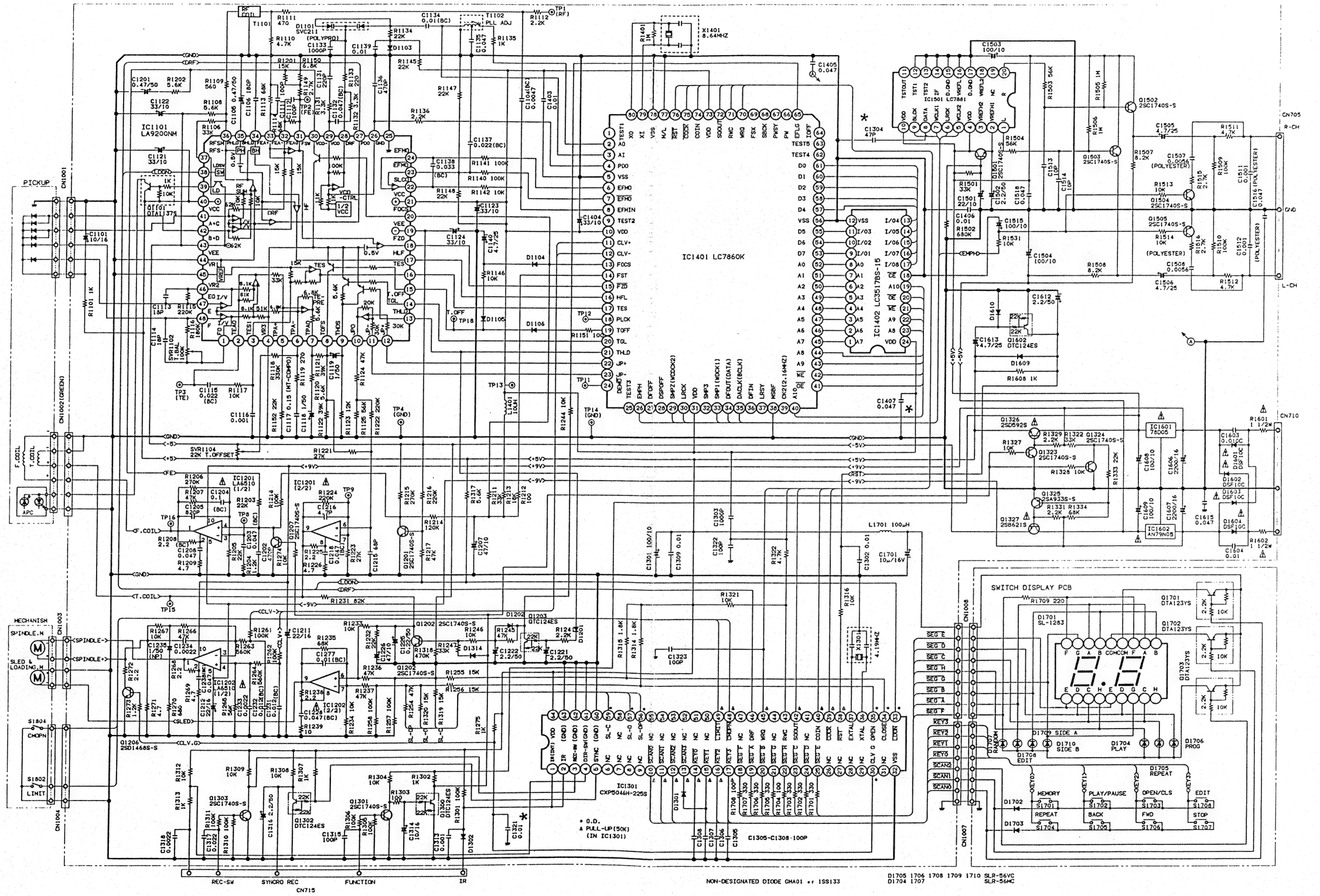
SCHEMATIC DIAGRAM (TUNER, ITALY)

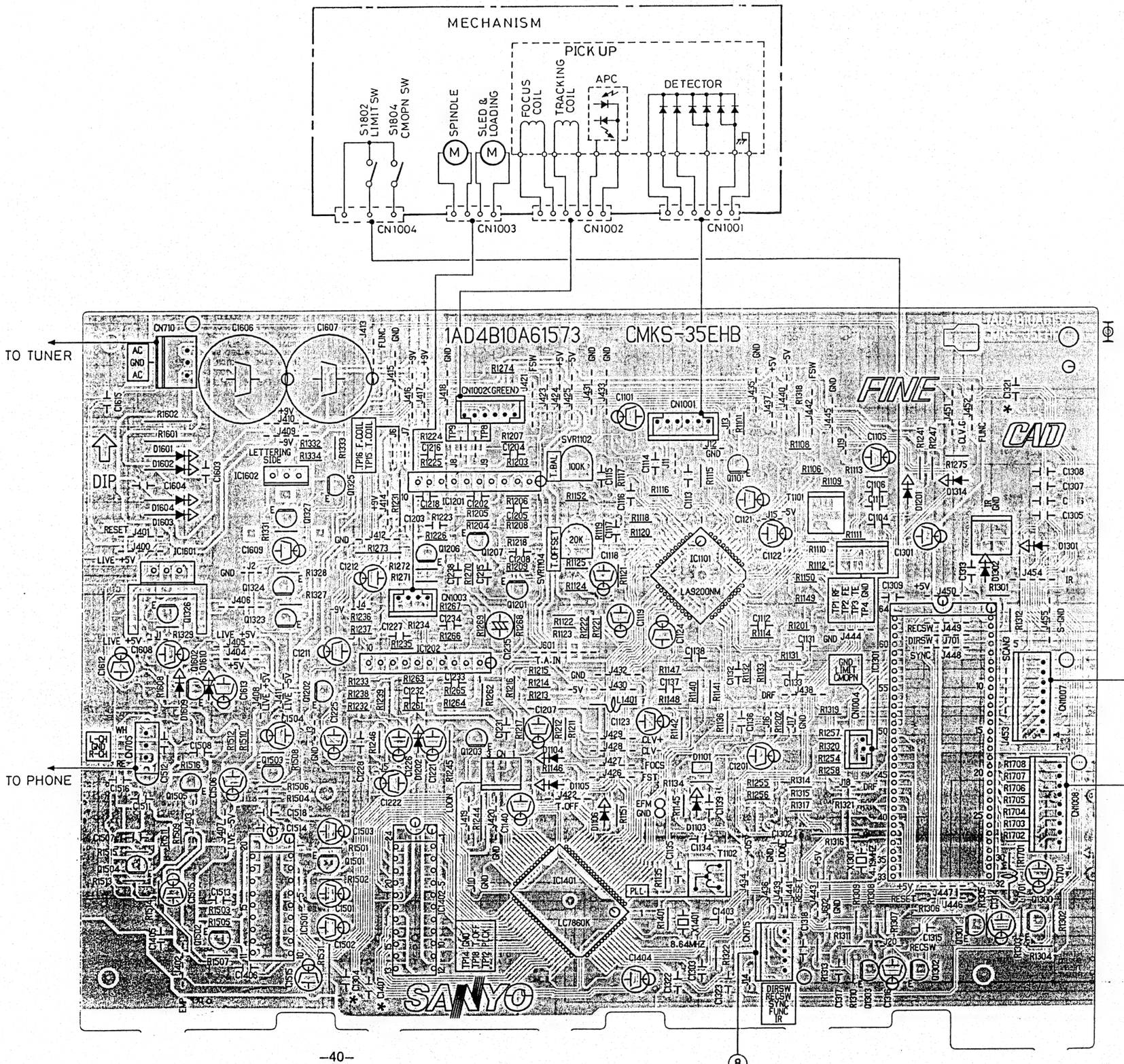


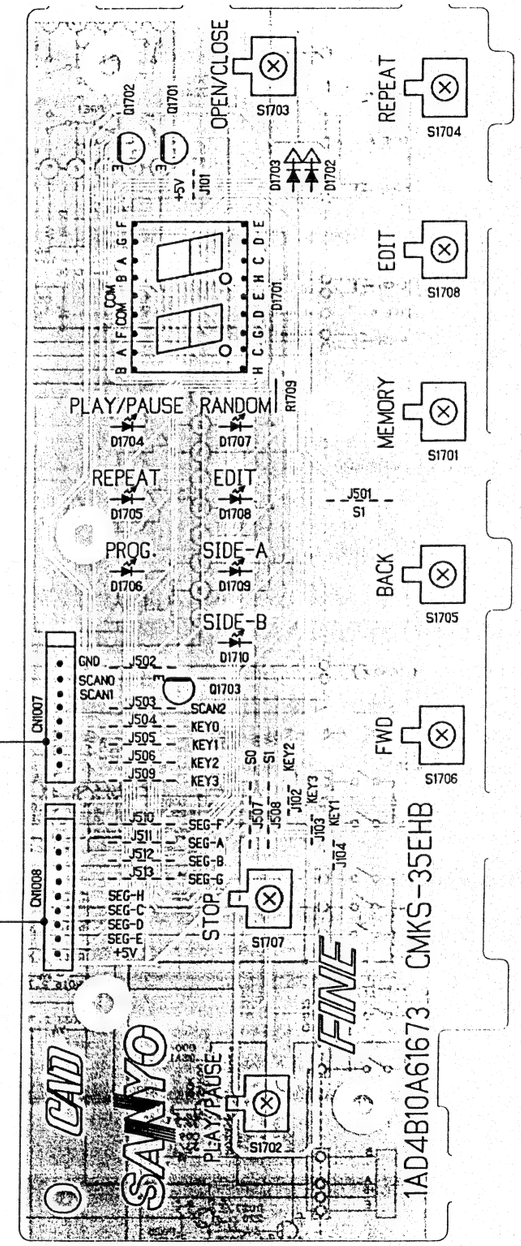
WIRING DIAGRAM (TUNER FRONT, ITALY)



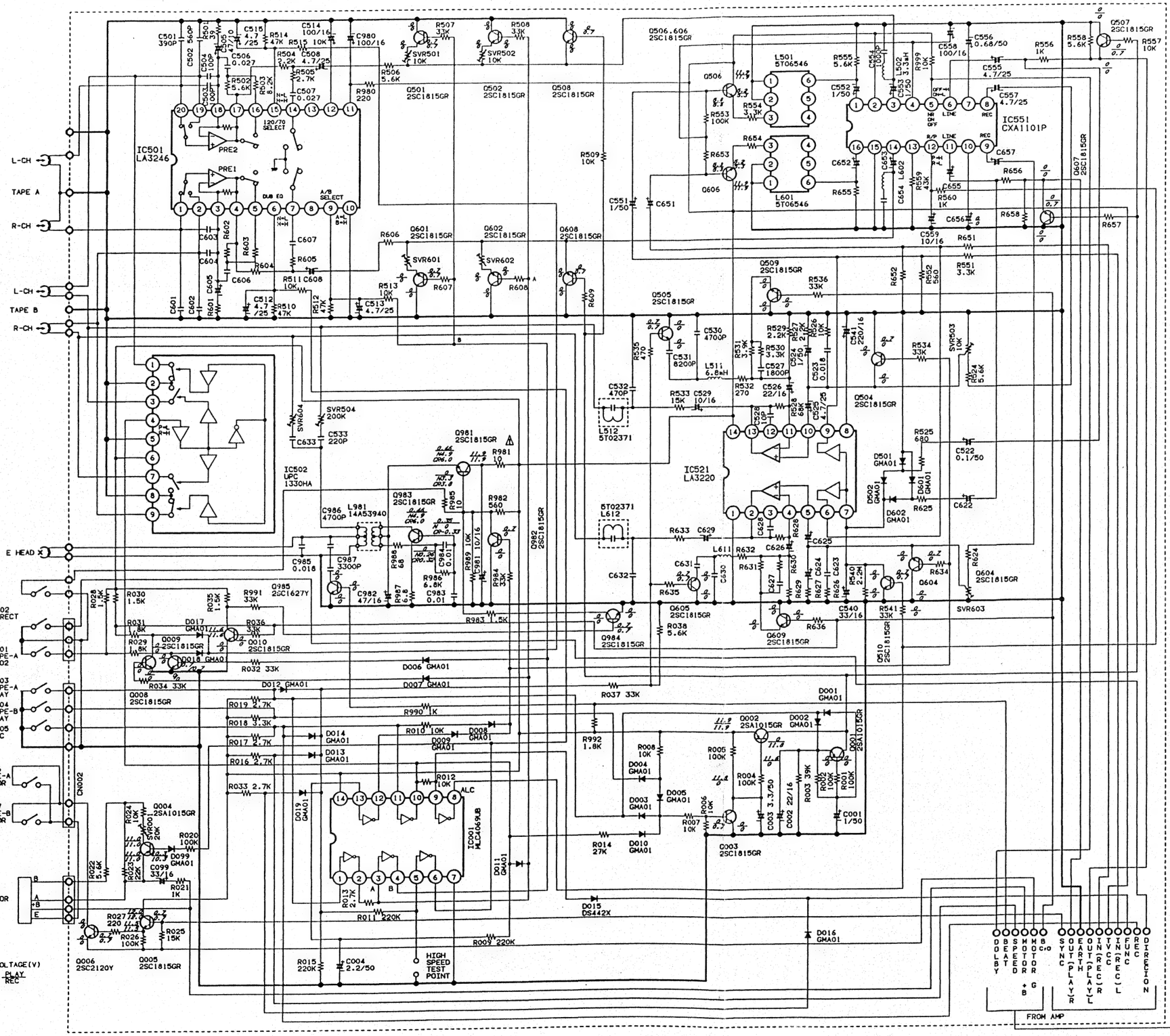
SCHEMATIC DIAGRAM (CD)




MECHANISM
PICK UP
S1802 LIMIT SW
S1804 CMOPN SW
SPINDLE
SLED & LOADING
FOCUS COIL
TRACKING COIL
APC
DETECTOR
CN1004
CN1003
CN1002
CN1001
TO TUNER
TO PHONE
1AD4B10A61573 CMKS-35EHB
FINE
CAD
SANYO
LC7860K
LA9200NM
8.64MHz


OPEN/CLOSE
REPEAT
EDIT
MEMORY
BACK
FWD
PLAY/PAUSE
RANDOM
REPEAT
EDIT
PROG.
SIDE-A
SIDE-B
STOP
CN1007
CN1008
1AD4B10A61673 CMKS-35EHB
FINE
CAD
SANYO

SCHEMATIC DIAGRAM (DECK)



PLAY···TAPE B PLAY
REC ···TAPE B REC

IC501	VOLTAGE (V)		
	PLAY	REC	OTHER
1	0	0	
2	0	0	
3	0.59	0.59	
4	4.4	4.4	
5	4.4	4.4	
6	0	0	5.9(HI.DUB.)
7	0	0	
8	4.4	4.4	
9	5.9	5.9	0(TAPE A PLAY)
10	0	0	
11	9.7	9.7	
12	9.7	9.7	
13	4.4	4.4	
14	0	0	
15	0	0	5.9(Cr02)
16	4.4	4.4	
17	4.4	4.4	
18	0.59	0.59	
19	0	0	
20	0	0	

S001 TAPE A SELECT SW "Cr02"
S002 TAPE B SELECT SW "Cr02"
S003 TAPE A PLAY SW "OFF"
S004 TAPE B PLAY SW "OFF"
S005 TAPE B REC SW "OFF"
S006 TAPE A MOTOR SW "OFF"
S007 TAPE B MOTOR SW "OFF"
S008 TAPE B STOP SW "OFF"

IC502	VOLTAGE(V)	
	PLAY	REC
1	0	0
2	0	0
3	0	0
4	0	11.6
5	0	0
6	11.9	11.9
7	0	0
8	0	0
9	0	0

IC521	VOLTAGE (V)		
	PLAY	REC	OTHER
1	0	0	
2	0.59	0.59	
3	11.2	11.2	
4	5.9	5.9	
5	5.9	5.9	
6	0	0	
7	0	0	1.15(ALC DOING)
8	5.9	5.9	
9	0	0	
10	5.9	5.9	
11	5.9	5.9	
12	11.2	11.2	
13	5.9	5.9	
14	11.9	11.9	

IC551	VOLTAGE (V)		
	PLAY	REC	OTHER
1	6.0	6.0	
2	11.9	11.9	
3	6.0	6.0	
4	6.0	6.0	
5	11.9	11.9	0(DOLBY ON)
6	6.1	6.1	
7	0.4	0.4	
8	6.1	6.1	
9	6.1	6.1	
10	0.4	0.4	
11	6.1	6.1	
12	11.8	0	0(FUNCTION SW (NON TAPE REC)
13	1.2	1.2	
14	6.0	6.0	
15	0	0	
16	6.0	6.0	

COMMON USE
D001 002 003 004 005 006
007 008 009 010 011 012
013 014 016 017 018 019
501 601 502 602

GMA01
(or1SS133)

D015
DS442X
(or1S2473)

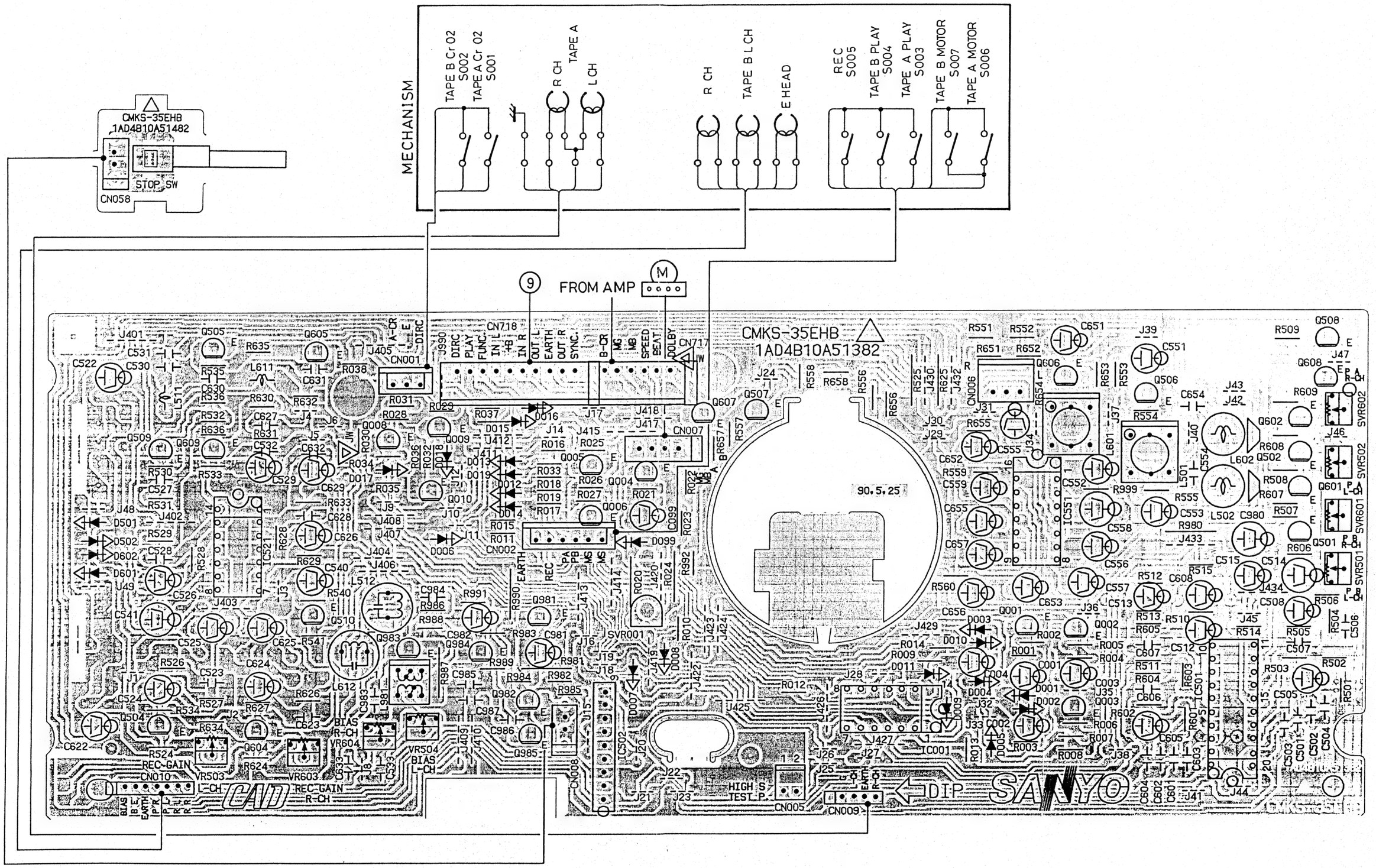
Q501 601 502 602 504 604
505 605 506 606 507 607
508 608 509 609 510 982
984 003 005 008 009 010
2SC1815GR
(or2SC945K or2SC1740S)

Q981 983
2SC1815GR
(or2SC945K)

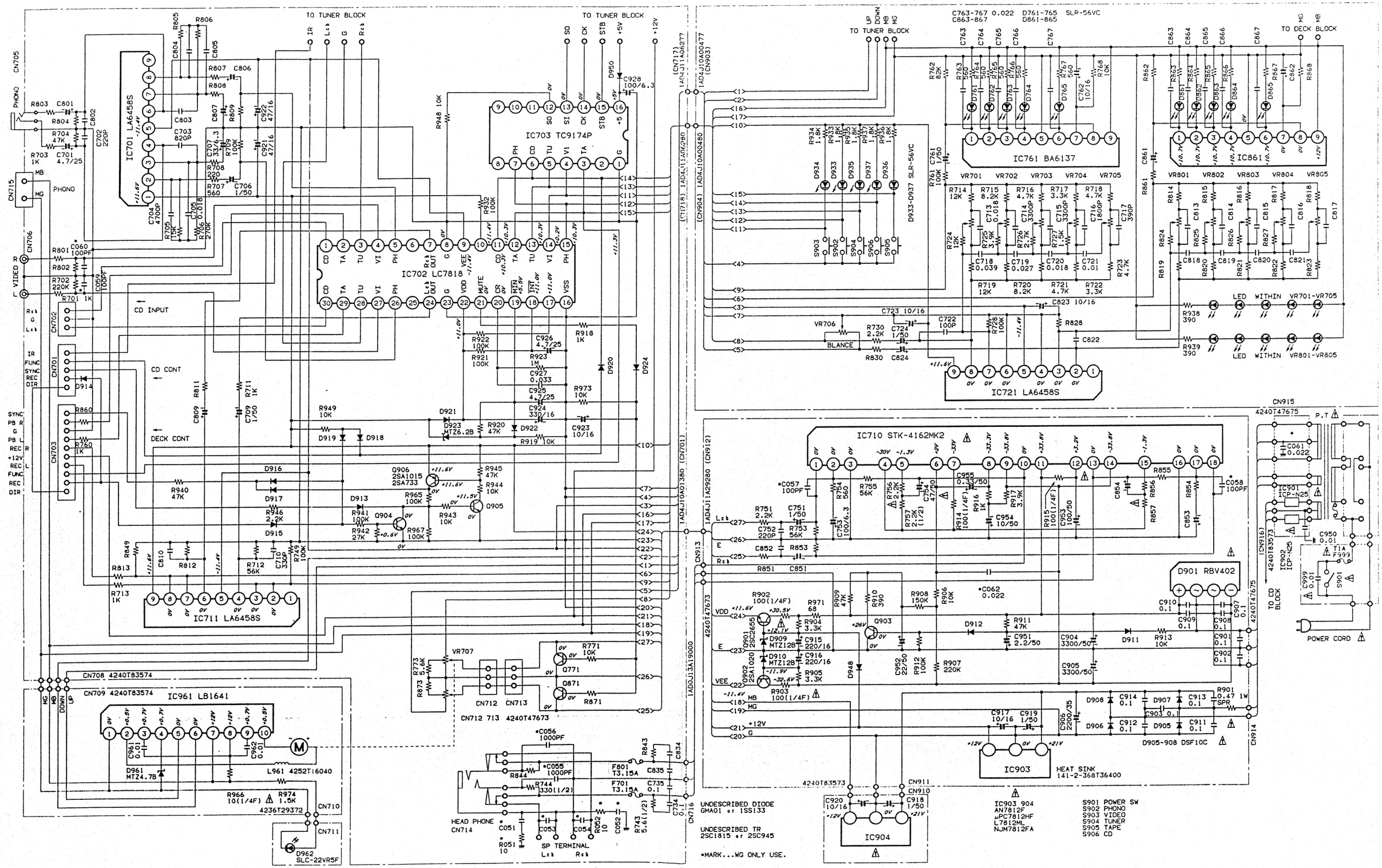
Q001 002 004
2SA1015GR
(or2SA733P)

Q006
2SC2120Y
(or2SC2001K)

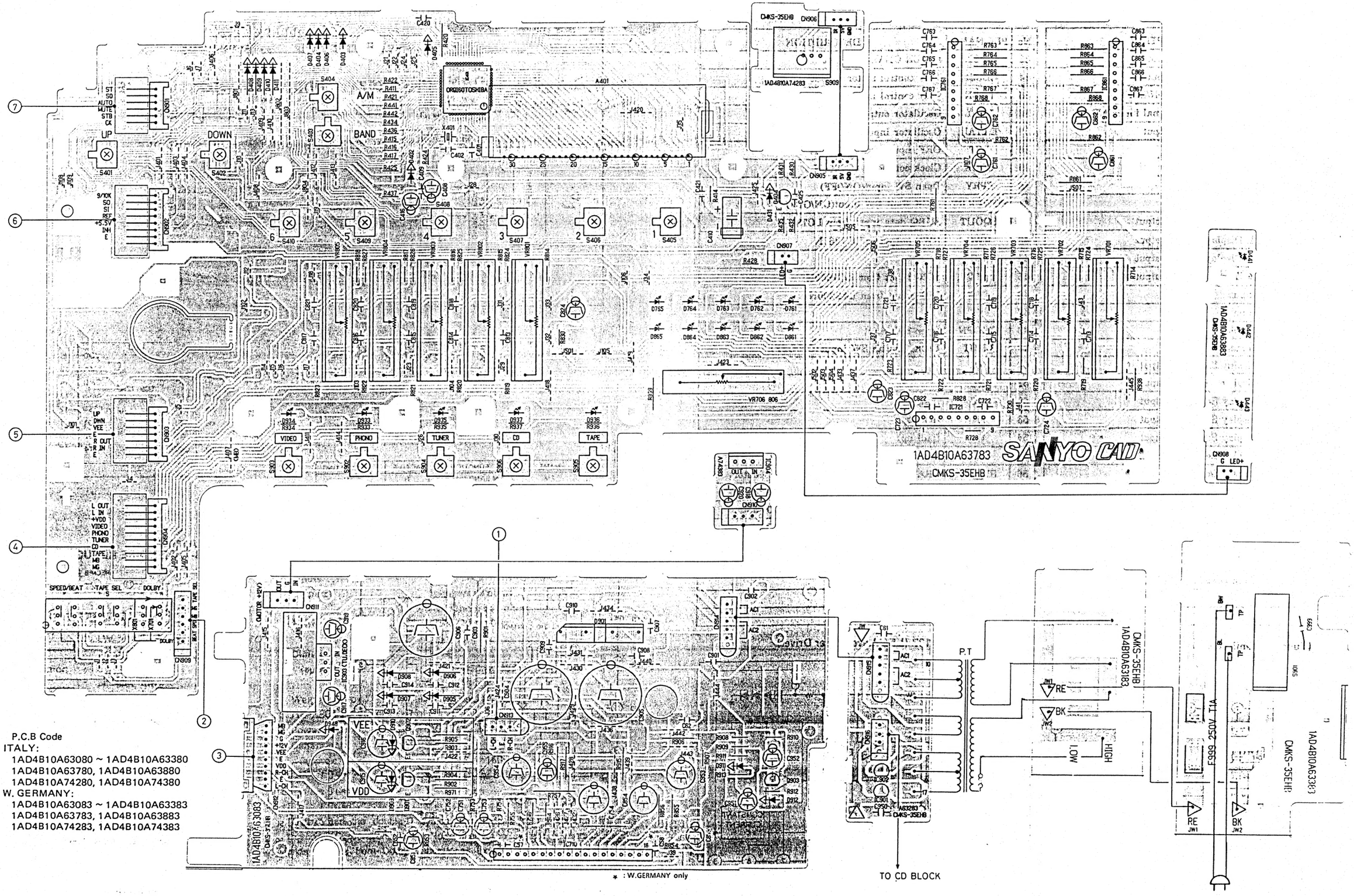
IC001	VOLTAGE (V)			
	PLAY	REC	HI.DUB	NOR.DUB
1	11.3	11.2	0	0
2	0	0.35	12.0	12.0
3	0	10.4	11.0	11.0
4	11.8	0	0	0
5	10.7	10.5	0.4	9.6
6	0	0	11.9	0
7	0	0	0	0
8	12.0	0	12.0	12.0
9	0	11.1	0.6	0.6
10	0	11.1	11.6	11.6
11	11.5	0	0	0
12	11.9	0	0	0
13	0	10.8	11.4	11.4
14	12.0	12.0	12.0	12.0


CMKS-35EHB
1AD4B10A51482
STOP SW
CN058
MECHANISM
TAPE B Cr 02
S002
TAPE A Cr 02
S001
R CH
TAPE A
L CH
R CH
TAPE B L CH
E HEAD
REC
S005
TAPE B PLAY
S004
TAPE A PLAY
S003
TAPE B MOTOR
S007
TAPE A MOTOR
S006
9
FROM AMP
M
CMKS-35EHB
1AD4B10A51382
90.5.25
CAD
SANYO
DIP
REC-GAIN
L-CH
REC-GAIN
R-CH
BIAS
R-CH
BIAS
L-CH
HIGH S
TEST P.

SCHEMATIC DIAGRAM (AMP, W. GERMANY)



WIRING DIAGRAM (AMP)



P.C.B Code

ITALY:

1AD4B10A63080 ~ 1AD4B10A63380
1AD4B10A63780, 1AD4B10A63880
1AD4B10A74280, 1AD4B10A74380

W. GERMANY:

1AD4B10A63083 ~ 1AD4B10A63383
1AD4B10A63783, 1AD4B10A63883
1AD4B10A74283, 1AD4B10A74383

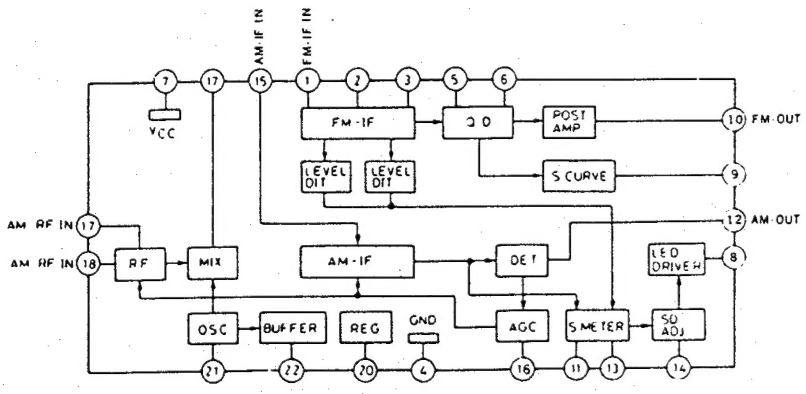
IC BLOCK DIAGRAM

IC1301 CXP5046H-225S(4 Bit Micro Processor)

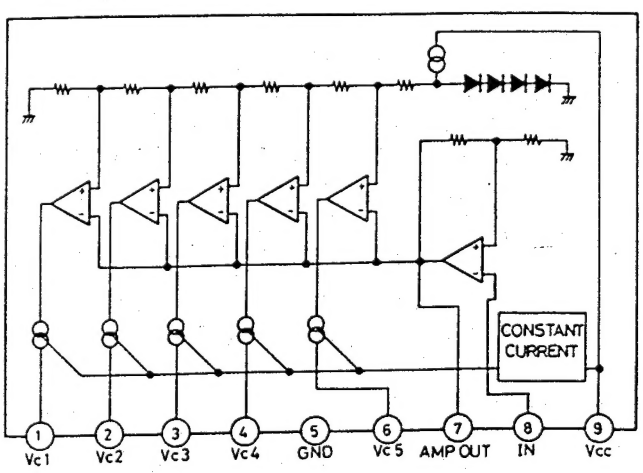
No	PIN NAME	DESCRIPTION
1	IR	Remote control signal input
2	IR	Remote control signal input
3	REC_SW	Deck REC signal inpur(ON/OFF)
4	DIR_SW	Deck REC REW/FWD signal inpur(A/B)
5	SYNC	SYNCRO REC signal output
6	NC	(PULL UP)
7	NC	(PULL UP)
8	NC	(PULL UP)
9	NC	(PULL UP)
10	SCAN0	KEY & Display SCAN output
11	SCAN1	KEY & Display SCAN output
12	SCAN2	KEY & Display SCAN output
13	SCAN3	KEY & Display SCAN output
14	KEY0	KEY input
15	KEY1	KEY input
16	KEY2	KEY input
17	KEY3	KEY input
18	SEGF	LED display Segment output
19	SEGA	LED display Segment output
20	SEGB	LED display Segment output
21	SEGG	LED display Segment output
22	AM	LED display Segment output
23	SEGC	LED display Segment output
24	SEGD	LED display Segment output
25	SEGE	LED display Segment output
26	NC	
27	NC	
28	NC	
29	NC	
30	CLV_G	CLV Gain control
31	NC	
32	VSS	GND

No	PIN NAME	DESCRIPTION
33	LDON	LASER ON/OFF output
34	CLOSE	Tray control motor output
35	OPEN	Tray control motor output
36	XTAL	Oscillator output
37	EXTAL	Oscillator input
38	RST	DRF input from LA9200N
39	CQCK	Clock ootput to LC7860N
40	SPRY	Open SW input(ON/)FF)
41	POWER RY	PICK limit SW input(ON/OFF)
42	SQOUT	SUBQ data input from LC7860N
43	RWC	RWC output to LC7860N
44	NC	
45	WRQ	WRQ input from LC7860N
46	DRF	DRF input from LA9200N
47	NC	
48	CMOPN	Open SW input
49	LIMIT	PICK Limitte SW input (ON/OFF)
50	NC	
51	NC	
52	NC	(pull up)
53	NC	(pull up)
54	NC	(pull up)
55	NC	(pull up)
56	SL_OP	TRAY Control Motor output(SLED Motor)
57	SL_O	TRAY Control Motor output(SLED Motor)
58	NC(SL_CP)	TRAY Control Motor output(SLED Motor)
59	SL_C	TRAY Control Motor output(SLED Motor)
60	NC	-
61	NC	-
62	NC	-
63	NC	-
64	VDD	+5V

IC201 LA1265 (Tuner System)

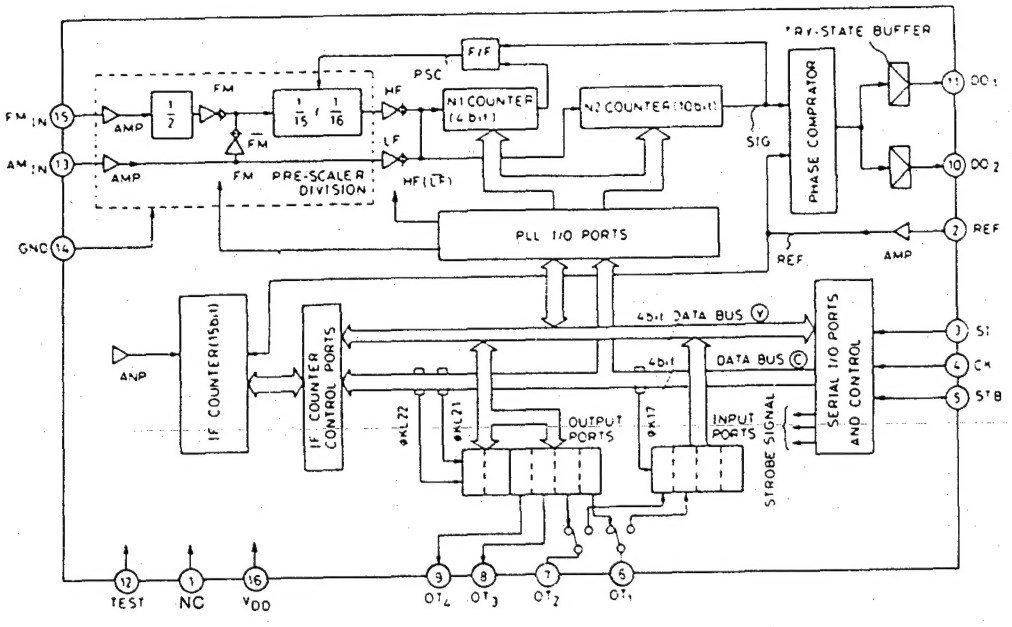


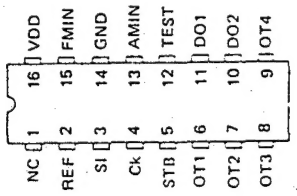
IC761, 861 BA6137 (LED Level Meter Driver)

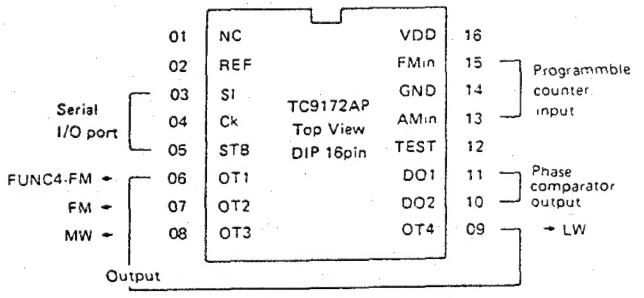


IC BLOCK DIAGRAM

IC401 TC9172AP (HIGH-SPEED PLL WITH PRE-SCALER)



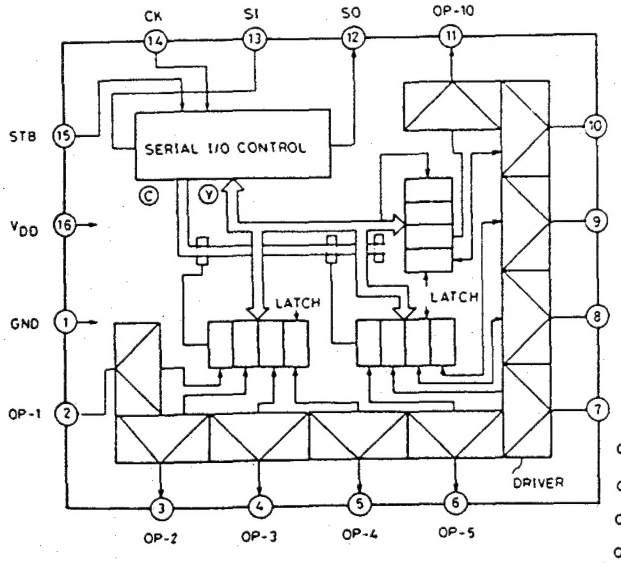


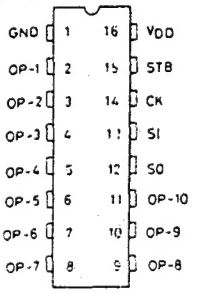


TC9172AP

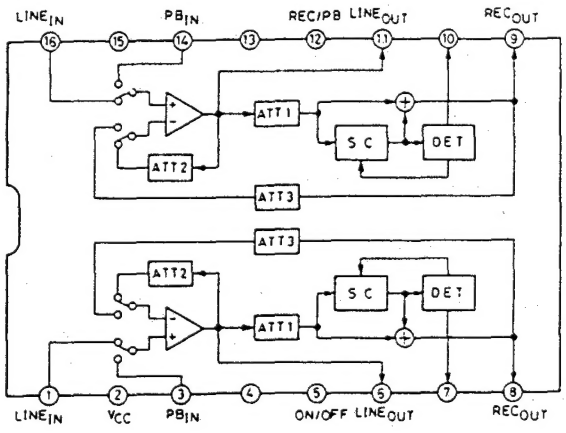
PORT	NO	NAME	FUNCTION	ACTIVE	FIRST SETTING
OT 1	06	FM	FM BAND OUTPUT	H	H
OT 2	07	MW	MW OUTPUT	H	L
OT 3	08	LW	LW BAND OUTPUT	H	L
OT 4	09	F1	F1 OUTPUT	H	L

IC703 TC9174P (INTER–FACE = EXTENSION OF I/O PORTS)





IC551 CXA1101P (DOLBY B-TYPE NOISE REDUCTION)



SANYO

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Osaka, Japan